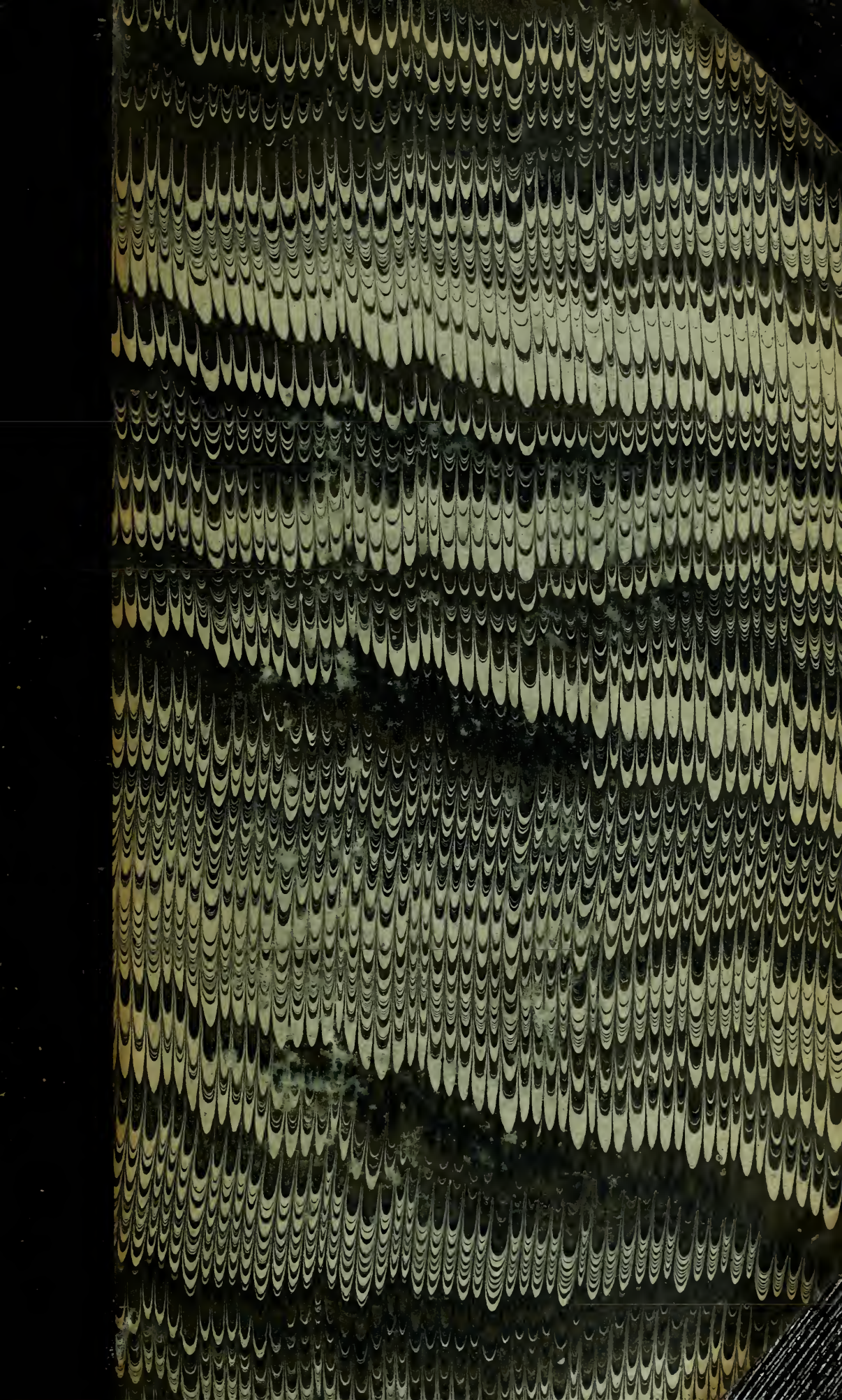
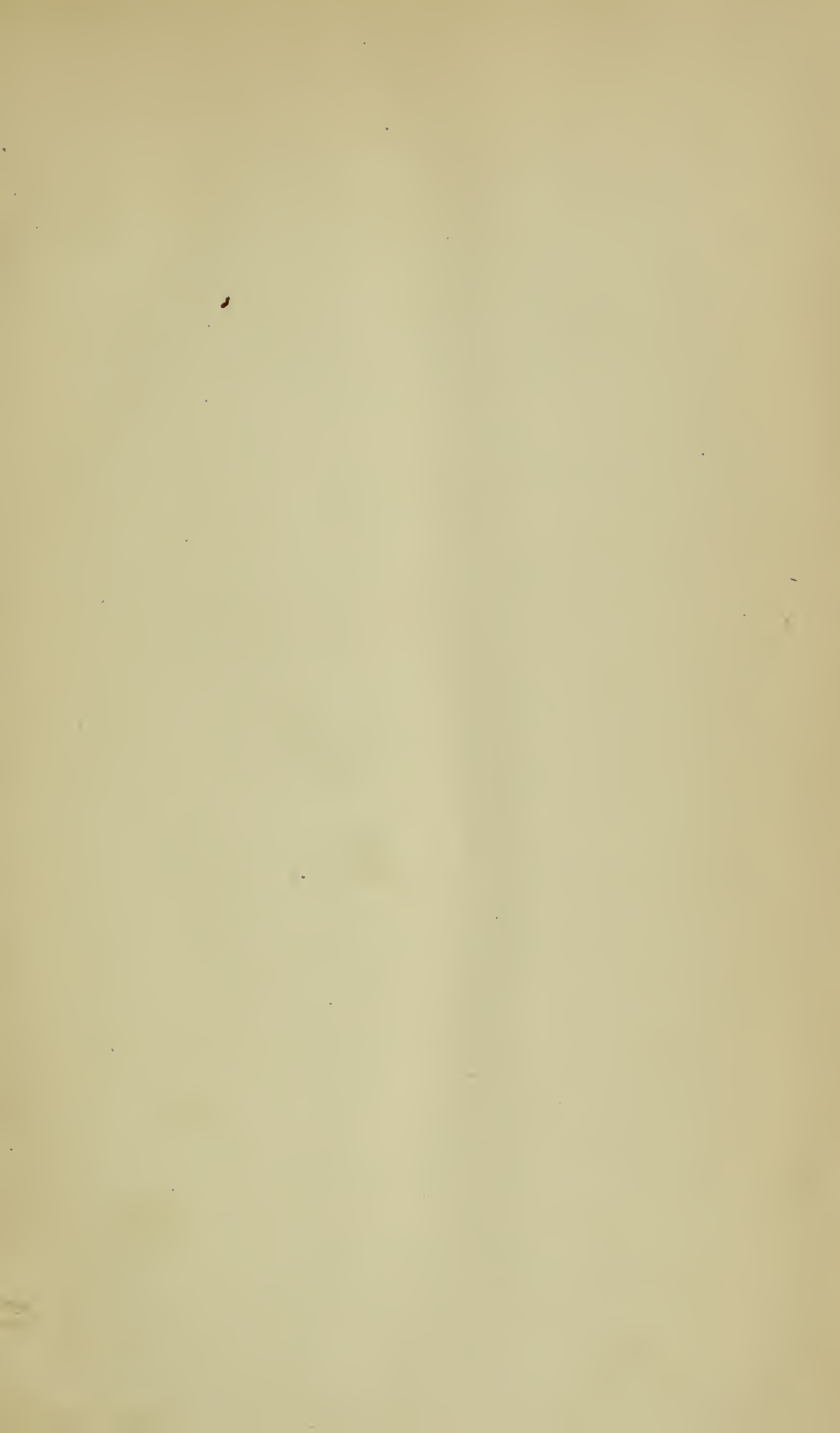




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MEDICAL MONTHLY.

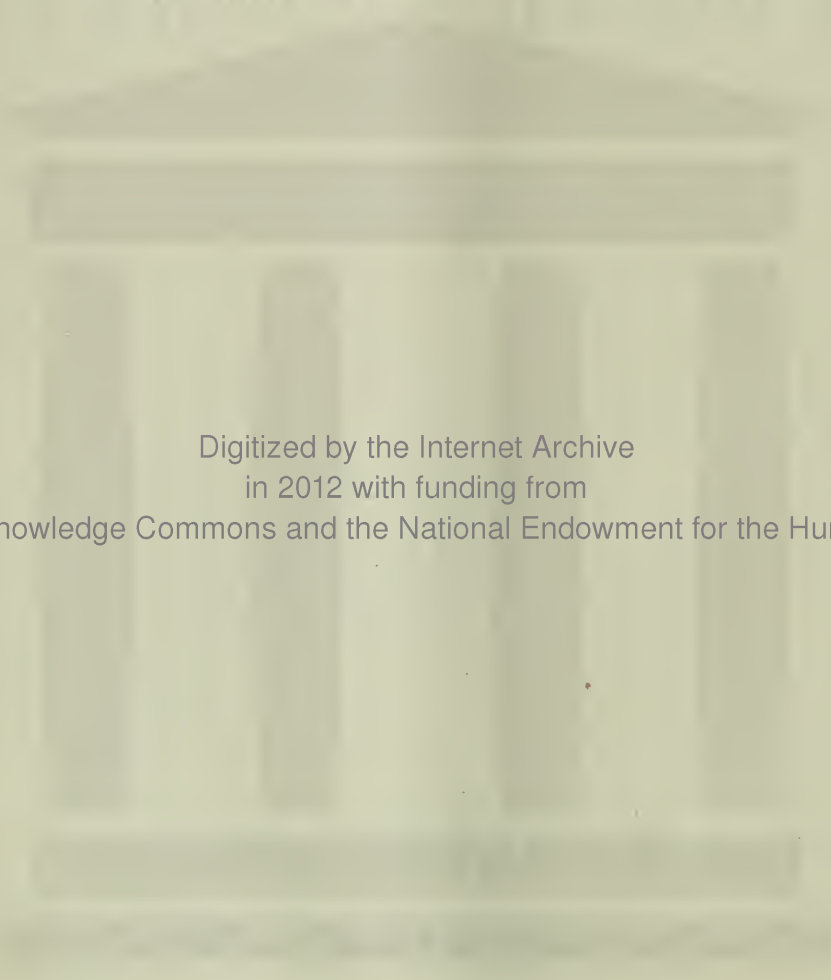
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THE AMERICAN MEDICAL MONTHLY.

JULY, 1857.

ESSAYS, MONOGRAPHS, AND CASES

The Manufacture, Impurities, and Tests of Chloroform. By EDWARD R. SQUIBB, M.D., United States Navy, Assistant Director United States Naval Laboratory, New York.

The importance of an outline knowledge of the manufacture, properties, and tests of medicinal preparations, is probably not fully appreciated by the medical profession at large, and thus the chemistry and pharmacy of the *art* of medicine are gradually, but certainly, lost sight of in the rapid progress of the science.

If it be true, that the aim and object of medical progression is to improve the art of medicine in its application, then the practice of chemistry and pharmacy is as important in its bearing upon that progress as any other element. As physiology and pathology afford the light by which alone the indications and operations of vitality are seen and understood, so chemistry and pharmacy furnish the means by which these operations are modified or controlled. If scientific research and development be necessary to the successful practice of an art, the use of appropriate materials and tools is equally so. Hence it is argued that no scientific research can actively advance the practice of legitimate medicine if it does not embrace and scrutinize the materials and means by which the results are sought to be obtained.

As the demand for medicinal substances increases, the preparation of them is transferred by the physician to the dispensing pharmacist, and then by the latter to the manufacturer of chemicals on the large scale. These substances then take their places in the common market as articles of commerce, and are bought and sold with as little relation to their ultimate effects as other merchandise, while their character and quality are far less easily judged of or ascertained. Under such circumstances these substances, now-a-days, deserve much more earnest attention at the hands of those who use them. Chemistry receives but a small share of the attention of medical men ; first, because it has become an abstruse, complicated, and subdivided science, whose advances are too rapid for collateral comprehension; and secondly, because the manufacturer of chemicals on the large scale is supposed to have taken charge of that speciality, and to furnish the necessary scientific research and knowledge, thus relieving the physician of this important tax upon his time and intellect, and at the same time furnishing his implements in the desired quantity and condition. But it so happens that the scientific research and accumulating knowledge in all branches of manufacture are rather in the direction of large profits than improved therapeutics, and therefore, practically, the profession of medicine in tacitly relieving itself of the necessity for chemical and pharmaceutical knowledge, has suffered its *materia medica* to be debased, and neglected the means of check and control.

It is abundantly demonstrated by daily experience that more chemical research and labor are now required to discriminate between good and bad medicinal substances, than for the proper preparation of most of them, while many, from their character, defy all proper scrutiny. For instance, it is far easier to make medicinal hydrocyanic acid, than to ascertain the strength or purity of an unknown sample, while such substances as compound extract of colocynth can never have their value determined by examination. Again, from this want of knowledge, research, and attention on the part of the physician, it happens, as in the case of Chloroform, that simple discriminative tests follow the introduction of important substances at so long intervals that the true value of the substance is lost, or much impaired, through its undetected impurities.

Of the number of pharmacutists in the United States, the proportion of those who make their own most simple chemical preparations is very small, while of the physicians who test and examine the preparations they use, the proportion is perhaps still smaller. The

physician relies upon his pharmacist, and the pharmacist relies upon the manufacturer, and thus the ultimate source of supply is not only removed beyond the confines of the profession, but beyond the reach of professional influence, except through discriminations and rejections of the articles supplied.

These are some of the prominent conditions upon which a medical skepticism, in the community and profession, is so steadily gaining ground, and therefore, the bad condition and prospects of the *materia medica* deserve the most serious attention from all medical men. Uncertainty in medicine is proverbial, and the rapid progress in the science has not had the effect of diminishing duly the force of the proverb in the community at large; for the slowly increasing confidence of the educated portions of the community is not proportionate to the advancement in knowledge and skill in the profession. In view of these circumstances, the writer would respectfully urge upon this association the importance of the question, as to how far the bad and uncertain quality of medicinal substances as now commonly used enters into this result,—and whether the modern reading of the proverbial uncertainty should not be directed against the implements of the art, rather than against the science.

In the failure of medicinal substances to fulfil the indications for their use, let the medical man more frequently call in question the character or quality of the agent than the sufficiency of the principles upon which the use was based.

With such claims upon this association for its interest and indulgence, the following matter is volunteered as information on the manufacture, properties, tests, and application of what is regarded as pure medicinal chloroform.

Forty pounds of chlorinated lime, previously made into a paste with water and passed between wooden rollers, is introduced into a forty gallon wooden still or barrel, and then diluted to the volume of fifteen gallons with water or chloroform washings. This mixture is then heated and agitated by the direct application of steam through a perforated pipe till the temperature rises to 145° . Four pints of alcohol are then blown into the mixture with the current of steam, and the heating continued till the temperature is about 155° , when the steam is shut off entirely and the mixture abandoned to its own reactions. Upon auscultating the still, a perfect vesicular murmur is heard. This increases gradually to active frothing ebullition, yielding vapors of chloroform, undecomposed alcohol, chlorine, hydrochloric, and acetic acids, acetic ether, aldehyde, chloride of

ethyl, acetal, chloral, &c. The remainder of the process, and that in which almost all the imperfections lie, has for its object, the separation and condensation of the chloroform, and the utilization of the residues. The mixed vapors are passed together into a leaden vessel arranged as a Wolf's bottle, and there made to bubble through milk of lime kept at a temperature of about 205° . Here the watery vapor, chlorine, hydrochloric acid, and some of the chlorinated compounds, are for the most part condensed or combined, while the more volatile substances, among which are the chloroform and alcohol, pass on to the first condenser or cooler. The water around the worm of this cooler is kept nicely regulated at about 165° , so that in it much of the vapor of water yet remaining, and almost all the alcohol vapor, is condensed and abstracted, leaving the vapor of chloroform to pass on to the final condensers in a state tolerably pure. These final condensers are supplied with cold water, and in them the remaining condensable vapors are brought to the liquid condition. The product of crude chloroform at this stage, is about thirty-six fluid ounces.

During this part of the process the contents of the still occasionally froth up, and would pass over with the vapors except for the arrangement of a cribriform cup of lead at the top of the still, inside, whereby a fine shower of cold water from a hose faucet is made to fall upon the frothing mixture.

Steam is then admitted to the still again, and the distillation continued, after the impure chloroform has ceased to separate, until the distillate no longer contains any traces of alcohol or chloroform. This weak distillate is used instead of water, to dilute the succeeding charge.

The crude chloroform is then washed three times with an equal volume of cold water, to deprive it of alcohol, acetic acid, &c., and set aside till the product of several charges is accumulated. It is then shaken with an equal volume of a dilute solution of carbonate of soda to free it from traces of chlorine, and at the end of the process, is finished by rectification from a mixture of slaked and quick lime, in a glass apparatus. The washings, except those of carbonate of soda, with the liquid condensed in the cooler, and, every third charge the contents of the lime purifier, are added to the succeeding charge, and in this way seven charges are worked off from the apparatus each day during the process.

The chlorinated lime or "bleaching powder," for this process, reacts in virtue of, and in proportion to the hypochlorite of lime it

contains ; and the chlorine of this hypochlorite, which is the ultimate effective reagent, varies in general between twenty-four and thirty per cent. of the whole weight. Occasionally there is as much as three or four per cent. variation in the proportion of chlorine in the contents of the same cask, through long keeping, carelessness or design in the manufacturing, the chlorine being the expensive element.

The alcohol for this process should be highly rectified, because in this rectification, up to ninety-one per cent. for instance, it must necessarily be freed to a great extent from the grain oils and other impurities whose reactions with chlorine produce deleterious compounds.

Manufacturers on the large scale, who too often take purity of product into their scheme as collateral, use in this process whiskey, or spirits that have been recovered from other processes, as extraction of alkaloids, &c., which are cheap, but are of course filled with foreign substances, whose reaction, with chlorine, cannot be prevented nor determined. In this way, notwithstanding the assertions that have been made to the contrary, there can be little doubt that many deleterious compounds are produced in the process, and pass with the chloroform (no lime purifier being used) not only into the market where the profits are realized, but also into the lungs of the patients, and by reflection affect injuriously the credit and character of the medical profession.

These deleterious compounds are exceedingly subtle, and like many hydrocarbon compounds, are often produced in groups. From the looseness of their affinities, they are so delicate and so easily modified in character and composition, that they may be more or less noxious in a proportion that it is impossible to determine, even at different ages, of any given sample. From these circumstances it happens that they are very difficult to separate or determine ; but fortunately they are not difficult to detect. If they ever occur in chloroform made properly, and from good materials, it must be very rarely, and in proportions too minute to be hurtful. A trace of acetic ether is often present in very good chloroform, even to an extent perceptible in the odor, but it is not at all hurtful in such proportion. Chlorinated lime containing twenty-seven per cent. of chlorine or hypochlorite, will yield, with the above process and management, seven per cent. of its weight of pure chloroform. And the alcohol used will yield ninety-two per cent. of the weight of the absolute alcohol it may contain ; or, alcohol of ninety-one per cent. will yield 83.7 per cent. of its weight of finished chloroform.

The writer avoids in this place, as foreign to the intended practical and medical character of this paper, all discussion of the theory and reactions of the process. It is sufficient to say that chloroform is generally regarded as a terchloride of formyle, and has the ultimate formula $C_2 H. Ch_3$. The chemically pure chloroform as represented by this formula should practically be associated with a little alcohol, and perhaps water, in order that it may keep well without troublesome precautions. That produced by the above process contains a little water, but is almost chemically free from alcohol, and as produced is liable to slight decomposition with the production of free chlorine. Hence it is useful and proper to add a small proportion of ordinary alcohol, so that the s. g. may be reduced from 1.498 to the official standard, namely, 1.49, or at least to 1.494.

The writer is convinced by observations upon chloroform made by himself, that a tendency to decomposition becomes very strong when chloroform has a purity indicated by a density above 1.497, and that decomposition will be almost inevitable when the density is above 1.498, and he believes that this circumstance explains the fact that chloroform which has been purified with concentrated sulphuric acid alone, rarely keeps well, although known then to be almost chemically pure. The acid abstracts not only the impurities as such, but also the last portions of water and alcohol. Then when a single point of decomposition is determined by light or other incitant to chemical reaction, that reaction proceeds as in a process of fermentation until the whole is decomposed. The small proportion of alcohol may prevent this in many ways, but probably by closing the circuit of the composition of the compound as the circuit of the magnet is closed by its keeper, or as the decomposing forces of some acids are controlled by combination. Thus, if the balance of affinities is disturbed in the direction of decomposition, the disturbing forces being equally efficient for recombination when material is present in the proper condition ; alcohol, the original matrix being present, the chain is again closed and complete.

With regard to the effect of sulphuric acid, it is true that the best manufacturers in Edinburgh, where perhaps chloroform is best made and most used, do purify their product with the acid, but then they distil it from the acid after having combined the latter with Baryta. Thus after the acid has performed its office of destroying all the impurities, it is, in effect, prevented from carrying off with it the last portions of alcohol and water, by having presented to it a substance for which it has a superior affinity, and for which it abandons the

alcohol and water, and these latter are then again seized by and carried over with the chloroform. This process of purification has been long used, and is probably unobjectionable in effect. It is, however, not better than that above given, while it is far more troublesome and expensive.

The risk of decomposition from too high density is, however, one of the very least that commercial chloroform has to encounter, for, where one specimen is found to be above 1.49, hundreds are found below it. Indeed, it is very rare to meet with a specimen whose density is above 1.49, the greater number by far being about 1.46 to 1.48. Low specific gravity alone, however, does not render the preparation noxious or bad, as is shown by the common use of a tincture of chloroform. Yet, when of a low specific gravity it is almost invariably bad, from the simple fact that the manufacturer in leaving it thus, must leave other impurities in it which would have been in great measure removed by the washings required to free it from alcohol.

In short, the bad effects which are attributed to chloroform, and which have brought upon this anæsthetic a large share of the distrust in which it is held, are, in the opinion of the writer, due to the presence in it of foreign deleterious compounds, which are the result of faulty preparation and bad materials.

Fortunately these deleterious compounds may be easily detected, and by very simple means within the reach and practice of every one who can have occasion to use chloroform; and every specimen that is used should be subjected to the scrutiny. Some such simple tests for each important preparation of the *materia medica*, well known and freely applied by the physician, is what is now most needed by the profession. But the profession should not depend upon the knowledge and research of the chemical manufacturer for the discovery and application of such tests, for very obvious reasons.

When equal volumes of chloroform and pure concentrated sulphuric acid are shaken together, and then allowed to separate, there should be no odor, or but a mere faint tinge of color imparted to the acid, and there should be no heat developed in the mixture. Any chloroform that will satisfy these simple conditions, may be considered pure, and may be used with confidence, while all that will not, should be unequivocally rejected. In the use of this simple and easy test, the indication of color has relation to the deleterious impurities, and that of temperature to the specific gravity or dilution, for if any water or alcohol be present, their combination with the acid produces

rise of temperature. Chemically pure chloroform, when thus shaken with the acid, produces no sensible effect upon either. The chloroform of the process given, causes a faint tinge of color in the acid after prolonged and vigorous shaking, and produces a rise of temperature in the mixture of seven or eight degrees, not perceptible to the hand. The amount of heat developed may be conveniently noted by observing the force with which the stopper is thrust outward on removing it, for the rarefaction of the air contained with the mixture will produce a pressure upon the stopper exactly in proportion as it is warmed by the mixture. Differences in temperature not perceptible to the hand, may be detected in this way if the necessary precaution is observed to avoid the influence of the warmth of the hand in shaking the bottle. A thermometer introduced before and after the shaking is, however, more accurate and reliable, when accuracy is necessary.

This is by no means the only qualitative test for chloroform, but as it is the most simple and easy, and is practically reliable, it is useless to occupy time and attention with others. Few samples of chloroform as ordinarily found now, will meet the requirements of this test, and yet the preparation is generally much better than it was four or five years ago.

The slow decomposition before alluded to as liable to occur in chloroform of high density, is easily detected, first, by the odor of chlorine, which is most strongly marked on first opening the bottle,—and again, by suspending moistened blue litmus paper in the bottle above the liquid. This decomposition commences, and in most cases is limited to the vapor above the liquid. When it has seriously affected the liquid chloroform, there is little danger but that the specimen will be rejected, for the odor of chlorine is then so strong and pungent, that it becomes almost impossible to inhale the vapor. Chloroform that is undergoing the slow decomposition from too high density alone, may give no acid or bleaching reaction with litmus paper, when immersed in the liquid, nor more than the faintest possible cloudiness when shaken with solution of nitrate of silver, but if a piece of moistened litmus paper be suspended in the vapor within the bottle, it first becomes of a reddish tinge, about the edges first, and is then more or less bleached, or turned of a dingy white color. Test paper so suspended becomes more or less red within half an hour, in almost all samples of good chloroform that has been long kept, but is never bleached unless decomposition is going on. This distinction of reaction is important, and affords very clear indications. In ordinary commercial chloroform of low density, the vapor above the

liquid is rarely acid, even when the liquid itself is so. When very delicate shades of acid reaction are to be detected, the strip of blue litmus paper should be torn rather than cut at its free extremity, and the reaction looked for upon the projecting fibres of the torn edges.

It has been before stated that the addition of a small portion of alcohol prevents the decomposition of good chloroform. The addition of alcohol also arrests this decomposition, even after it has gone on for many weeks, but it does not of course free the remaining chloroform from the products of the decomposition. In this case a new rectification is required to separate the watery looking fluid which is produced, and either adheres to the bottle about the edges of the surface of the chloroform, or is diffused through it, rendering it opalescent. The appearance of this liquid on the addition of alcohol, is an unfailing test of the condition of the chloroform in this respect. New rectification from powdered quick-lime separates this fluid, and renovates the chloroform entirely.

The addition of eight drops of alcohol to each fluid ounce of decomposing chloroform, or 53 per cent. of its weight is the minimum proportion which has been successfully used, though this is not probably the limit in that direction. Such an addition, namely, 53 per cent., reduces the s. g. by .0055, or reduces chloroform of s. g. 1.4989 to s. g. 1.4934. A better proportion of alcohol is, however, 10 drops to each fluid ounce, or 66 per cent., reducing the s. g. by .0069, or from 1.4989 to s. g. 1.492.

The writer has on two occasions at least, administered without any unusual effect, chloroform that gave an acid reaction not only with suspended litmus paper, but also with that which was immersed in the liquid. But it was first ascertained by solution of nitrate of silver, that the acid was not hydrochloric.

He has also used portions that were undergoing slow decomposition, as indicated by the bleaching effect upon suspended litmus paper, and equally without bad effects.

These circumstances greatly strengthen the position assumed, that it is not chloroform, nor its legitimate elements or constituents that produce the bad effects, but foreign substances of very different nature and composition.

The specimens before the Academy are :—

First. Chloroform that is undergoing the slow decomposition. S. G. 1.4989. This is the product of the described process, without the addition of alcohol.

Second. A portion of the same chloroform in which the decomposition has been arrested by the addition of .66 per cent. of alcohol. The watery looking fluid and opalescence produced is distinctly visible. S. G. 1.492.

Third. A portion of the second specimen completely renovated by rectification from powdered quick lime. S. G. 1.492.

Fourth. Chloroform made at the same time, and by the same process as the first specimen, but of a little lower density, from being a later portion of the distillate in rectification. This having undergone no perceptible change. S. G. 1.4984.

Fifth. Chloroform made in 1853, exhibiting the strongly acid reaction of the vapor, while the liquid is neutral, or very nearly so. S. G. 1.492.

Sixth. Chloroform in the condition ordinarily dispensed in the Navy. S. G. 1.492.

Seventh. The best of four samples of chloroform as supplied to the Navy prior to 1853. As these were always obtained from the best druggists, and commonly at high prices, they probably represent the best chloroform of the common market at that time. S. G. 1.474.

The suspended moistened litmus papers exhibit the vapor reactions in each, while the separated portions exhibit the characteristic reactions with sulphuric acid and the thermometer. The writer is under obligations to some members of the Academy, for the opportunity of exhibiting the effect of the tests upon specimens of chloroform from the best sources newly purchased, and not before seen or examined by the writer.

In the early part of the career of chloroform, it was not only very badly made, but was also badly applied, and without discrimination or proper limit, and that bad results followed is scarcely to be wondered at.

These circumstances enter largely in explanation of the fact, that of the sixty-five or six reported cases of death by chloroform, not more than three or four have been noticed as having occurred within three years, and not one very lately, while there is no evidence of abatement in its use within that time.

As there appears to be some tendency in the profession here, to take up and examine anew into the safety of chloroform as an anæsthetic, the following significant facts may be mentioned. There is no doubt that chloroform has always been, and is still very largely used in Great Britain; perhaps as freely and successfully as ether here, so that the number of cases in Edinburgh alone is now stated at over

200,000. The bona fide confidence in it, after so large an experience, is just now evinced by the circumstance of its having been administered to the Queen in her ninth parturition. If chloroform can be used there with the confidence and safety thus indicated, is it not probable that similar chloroform could be used with equal safety here?

Probably the strongest reasons why ether has been more safe than chloroform here, are,—first, that ether cannot be made from low grades of alcohol at all,—secondly, that the concentrated sulphuric acid destroys most of the impurities of the alcohol in the process of etherification,—and finally, that the manipulation of the ether process is easier, and the impurities less noxious.

Therefore bad ether may be justly considered more safe than bad chloroform, but that good ether is more safe than good chloroform, the writer does not believe.

As a corollary, therefore, it would appear that the practice of the profession has really been in the hands of the manufacturer, and it is the more to be regretted that in this respect chloroform stands by no means alone.

During the past five years the writer has made 187 pounds of chloroform for the Navy, most of which has been dispensed and used, and as yet without a single reported case of bad results. Within that time he has personally administered it for anæsthetic purposes, twenty-two times, without any apparent hazard, and with the occurrence of no disagreeable consequences greater than nausea afterward, and this in one instance only. In the case of one old man, with shattered constitution and one hepatized lung, it appeared necessary to use it very cautiously; but its use was continued through 45 minutes with excellent effect.

This very limited experience in its application, inclines the writer to agree with those who regard the respiration rather than the circulation as the function to be most closely watched, as the index to its ordinary administration.

It has not been the object of this paper to cover the whole ground upon this subject, or to occupy the time of the Academy by a recapitulation of what is already well known from other sources. Its somewhat desultory character may, therefore, possibly be excused.

Aneurism of the Aorta. By CHARLES C. HAYES, M.D., New York.
Read at the Pathological Society.

The specimen of Aneurism of the Aorta before you, was taken from a patient who had been under my charge since November last. Previously he had been under the care of Dr. B. A. Clements, who, upon entering the United States Army, transferred his patient to me.

It gives me great pleasure, and it is my duty to state, that the entire credit of the diagnosis of the case belongs to Prof. Alonzo Clark. About a year since Dr. Clark examined the patient, and discovered for the first time that he was suffering from an Aneurism of the Aorta. The disease appeared so clearly and satisfactorily diagnosticated by him, it occurred to me that the case would present peculiar advantages for investigation and study.

Joseph P. Arnoux, aged 50 years. Born in New York. By occupation a ship-joiner. Frame of medium size. Formerly very muscular. Weight 160 pounds. Phthisis on his father's side was the only hereditary tendency traceable. Habits previous to the last ten years irregular. Possessing a great amount of physical strength, and having many opportunities as a ship-carpenter in the United States Navy of displaying it, from his own accounts, he not only gave, but received many a hard blow ; having, during his life, been engaged in several well contested prize-fights. For the last ten years he has been a temperate, hard-working, and industrious man. Six years ago he had rheumatism, and was supposed by his physician to have had disease of the heart, having manifested some symptoms indicating that affection, such as difficulty of breathing, pain in the præcordial region, and dyspnœa greatly augmented by ascending heights. Though these symptoms did not prevent him from attending to his daily and accustomed pursuits, still his health gradually failed. Eighteen months previous to his death, these symptoms, which indicated a chronic disease of some kind, gradually increased ; and in addition to them his attention was drawn to a peculiar sensation over the dorsal vertebræ, which at times was exceedingly painful, of a grinding, boring character. He was obliged to resort frequently to external applications, friction, &c., as the only means of affording relief. His wife observed that he stooped now more than formerly. During my attendance upon him since November, he did not complain of any strange sensation in the dorsal region, nor of any pain, excepting over the sternum, and in the left shoulder

and arm. There was no numbness, formication, or impaired motive power of the limb, as is sometimes experienced. For a few months he suffered more from dyspnœa, with a feeling of tightness and oppression of the chest. The respiration was attended with a harsh, wheezing, and croaking sound, which gradually increased, and was very marked towards the close of his illness. A peculiar nasal sound difficult to be described, was often noticed. The paroxysms of dyspnœa were never very violent like those of spasmodic asthma, until within a few weeks of his decease. More recently he complained of being annoyed by the eructations of gases; but as he did not experience any difficulty in swallowing, I was not inclined to attribute this to the pressure of the tumor upon the œsophagus, as has been observed by others. The pulse was at times deranged and intermittent, but I never regarded it very marked in its irregularity. Cough was occasionally present, but it was not a troublesome symptom. Three weeks previous to his death I was requested to visit with haste my patient, "as he had burst a blood vessel." I went, thinking it would be all over with him when I arrived; but was agreeably disappointed in finding him up and looking about the same as usual. He had had slight hæmoptysis from the rupture of some small blood-vessel, which had caused the alarm. He expressed great fear at the occurrence; and remarked to his wife "that the artery had burst, but he was prepared for any fatal result, his peace was made with God." I convinced him that the time had not arrived yet. The following day being stormy he kept his room, but the next day was out of doors feeling in better health and spirits than he had experienced for some time before.

Physical signs were as follows: from percussion very little satisfaction was obtained. The ordeal he had passed through at the College, made him very cautious in allowing me to percuss him, so that I gained few advantages from these signs. A hoarse aneurismal murmur synchronous with the pulse, was more perceptible above the clavicles than below. In listening to this sound over the left clavicle particularly, I found it very audible, as I descended towards the apex of the heart it diminished gradually, and there was heard in its place the sounds of the heart. Receding from the apex the sound gradually diminished, and as I approached the clavicle the aneurismal murmur was again heard. The sounds were of greater intensity over the sternal ends of the clavicles, yet they were more or less audible throughout the præcordial region. A hoarse, hollow murmur was usually heard, though it was sometimes of a hissing

character varying in pitch. This murmur coincident with the sound of the heart was, nevertheless, different in tone ; it was louder, more hollow and abrupt, and not so gradual in its rise and fall. Pulsation was distinctly felt over the superior part of the sternum. The purring tremor (*frémissement cataire*) was often felt over the upper portion of the sternum and clavicles, yet sometimes more distinctly than at others. Dr. Hope says, " that in old aneurisms this purring tremor is rarely occasioned ; because in consequence of their magnitude, and thickness of their sacs with fibrinous coagula, they possess little susceptibility of vibration." But as it may occur, his explanation of the cause of the tremor will account for its existence in this case, as the sac was found lined with calcareous, cartilaginous, and other adventitious deposits, making a rough surface for the blood to flow over, hence causing this abnormal sound. In regard to the treatment of the case very little need be said. *Digitalis* proved of eminent service to him when the difficulty of breathing from any unusual excitement became distressing. He clung with such tenacity to a prescription composed of tincture of *digitalis*, *lobelia*, and squills given to him by Dr. Clements, that I never had occasion to change it. Aperients, and counter-irritation over the chest were occasionally employed. A week previous to his death I was called to see him at an early hour in the morning, and found him suffering from excessive dyspnœa. I ordered a hot foot-bath, sinapisms to his chest, and gave him a preparation of ether, which afforded some relief. But the anxiety of countenance, livid complexion, and purple lips, indicated that the compression of the trachea, or some of the larger bronchial tubes by the tumor, preventing the aëration of the blood, and causing congestion of the lungs, was rapidly doing its work. Expectoration, which had been more or less abundant for two months, increased, and with it a corresponding difficulty in relieving the bronchial tubes of the secretions. Though the administration of various medicines was resorted to, to alleviate the distressing dyspnœa and remove the bronchial secretions, still nothing proved of much service. He died not from hæmorrhage produced by the rupture of the Aorta, as I supposed might be the result, but most probably in consequence of aënon-ration of the blood, and inflammation of the lungs, caused by pressure of the tumor upon the trachea.

Post-mortem fifteen hours after death. Rigor-mortis well marked. Body not emaciated. Slight amount of fluid in pericardium. Patch of lymph three inches long on surface of the heart. Adhesion of

of right pleura very slight. Right lung perfectly healthy. Lower lobe of the left lung in third stage of pneumonia. Upon opening the thorax an aneurismal tumor about the size of the fist, was found adherent to the second and third dorsal vertebræ. In dissecting off which, it was found to have worn away half the substance of the vertebræ. The sac being opened proved to be a dilatation of the arch of the Aorta. It contained a mass of coagulated fibrin about the size of an English walnut, which adhered to the walls of the sac. The coats of the artery composing the sac were the seat of calcareous and cartilaginous deposit. Other parts of the Aorta appeared in a healthy condition.

Patient died April 24th, 1857, at 2 o'clock, A. M.

Removal of a large Fibrous Nasal Polypus, by the knife. Reported by G. J. FISHER, M.D., Sing Sing.

R. W., male, aged 19 years, white, a native of this county (Westchester), by occupation a laborer, consulted me about eight months ago, for a fibrous Polypus of the right nostril, which filled the entire nasal cavity, and protruded backward and downward in the pharynx behind the soft palate, which was pressed forward and greatly increased in length and breadth, to accommodate the constantly increasing bulk of the tumor. The voice was almost destroyed, and the miserable patient was obliged to keep his mouth distended to its utmost capacity, to enable him to breathe. His respiration was much more embarrassed at evening and during the night, while in the recumbent position; indeed so difficult was his breathing, that his friends were frequently alarmed, believing that he would suffocate before morning.

At the time I first saw him, he was pale and somewhat emaciated, with an expression of great anxiety. He informed me that he had first observed something growing in his nose, about two years before, and that it had constantly and rapidly increased up to the present time; that for one year past he had been subject to excessive hæmorrhage from the mouth and nose, frequently to such an extent as to cause syncope, followed by extreme prostration for many weeks subsequent. I advised its removal; but being rather a timid and weak-minded lad, to which may probably be added the fact of his fears of a fatal result being roused by his friends, he declined an operation for its removal, and went away.

He returned again in March, 1857, and consented to an operation, the necessity for which was now imperative : first, from the imminent danger of strangulation or asphyxia, on account of the increasing growth of the tumor filling the pharynx and intruding upon the larynx ; secondly, from the exhaustion of his system by frequent and profuse hæmorrhages from the surface of the tumor ; and thirdly, from the danger of the mass degenerating into cancer or some other malignant form of disease, ulceration of its more depending portion having already commenced. To all of the above reasons might be added the unsightly appearance of a gaping mouth, the sickening fetor of the breath, and the loss of voice, as well as the discomfort arising from its presence in the nose and mouth. March 28th being the day appointed for making the operation, having called to my assistance Dr. J. F. Jenkins, of Yonkers, and Dr. Perry, dentist, of the same place, we proceeded to the undertaking. Dr. Jenkins supported the head, and held down the tongue with a spatula, while Dr. Perry held the patient firmly in an operating chair. I first slit up the *velum palati*, with a pair of angular scissors, as far as the palatine bones, then seizing the mass with a strong gullet forceps, tried torsion in vain ; then with a strong tenaculum drew down the polypus, and with a curved probe-pointed bistoury, keeping as close to its base as possible, effected its separation. Upon its removal, the most profuse and alarming hæmorrhage ensued. Belloc's canula was immediately passed through the right nostril, by which a double-ligature, to which a large plug of lint was attached, was brought into the place formerly occupied by the polypus ; another plug in the anterior nares, over which the ligatures were secured, arrested the hæmorrhage completely. The patient having fainted during the later part of the operation, from loss of blood, which amounted to about three pints, was gradually resuscitated by the free exhibition of brandy, &c.

The following day the ligatures were loosened, but as no bleeding occurred, the plugs of lint were entirely removed ; no hæmorrhage occurred subsequently, and the patient rapidly recovered. A portion of the polypus still remains in the anterior part of the nasal cavity, which it is designed to remove soon, when the voice will probably be perfectly restored. The cleft in the soft palate united partly by the first intention, the remainder by granulation. It now has an even border, the only effect of the incision having been by cicatrization, to contract the broad apron of the palate, rendering it more natural than before, as it was greatly enlarged to accommodate the bulk of the tumor.

I have reported this case on account of its being rather unusual to meet with nasal polypi so very large. In the third volume of the last American edition of Velpeau's Surgery, on the 83d page, several cases are mentioned of nasal polypi of much greater size, one of which "protuded outside of the nose into the pharynx, into the cheek through the antrum Himorianum, into the orbit and temporal fossa, and also into the cranium, the base of which had become softened and worn away by it."

REVIEWS AND BIBLIOGRAPHY.

The Physiological Anatomy and Physiology of Man. By ROBERT BENTLEY TODD, M.D., F.R.S., &c., and WILLIAM BOWMAN, F.R.S., &c. Part IV. Section 2nd. London, 1857.

We are happy to be able to announce the completion of this very valuable work ; and with the preceding four parts of which many of our readers are doubtless familiar. It was commenced fourteen years since (1843), having been originally designed as a text-book for the lectures on General Anatomy and Physiology, given by its authors in King's College, London ; and the four parts, of 200 pages each, had appeared at long intervals. The first section of the fourth part was published in 1852, and the authors explain the delay in the completion of the work as follows : " If, indeed, our pursuits had tended to no other end than the cultivation of science, this book might have been finished long ago ; but the increasing interruptions incident to a professional life, and the large demand made on us by studies of a practical kind, began at an early period to impede our progress. These hindrances did not diminish as time wore on, nor were they lessened by the fact of the authorship being in the hands of two persons, however cordially united by common views and the ties of friendship, or by the necessity for frequent and prolonged conferences which that double authorship entailed." They also add that, " were it not for the kind and valuable coöperation of Dr. Beale, who is now the sole occupant of the physiological chair in King's College, we should not even yet have been released from our difficulties." "Stepping out of his proper path of independent investigation, he has carried out our intentions, and enabled us, although at the eleventh hour, to fulfil our engagements to our pupils and to the public."

The preceding eight hundred pages contained twenty-nine chapters on the following general topics, besides the introduction : The tissues and their properties ; molecular and ciliary motion ; the passive organs of locomotion (bones, ligaments, &c.) ; the active organs of locomotion (muscles) ; the nervous system (in fourteen chapters) ; digestion (four chapters) ; absorption ; the blood ; circulation of the blood ; and respiration.

The present and concluding part commences with the 30th chapter (preceded by a few pages of the 29th), and contains fifteen chapters, of which we proceed to give a rapid analysis.

The 30th chapter, on animal heat, discusses the development of heat in plants and animals, the temperature of the human body, as modified by age, sleep, exercise, and climate, and influenced by evaporation, by food, by disease, and by the nervous system. The heat of the body is produced by the union of oxygen with the carbon, hydrogen, phosphorus, sulphur, &c., in the tissues, and in the blood ; but principally with carbon and hydrogen, resulting in the formation of carbonic acid gas and water. The same amount of heat is produced by the combination of oxygen with these elements in the body, as would have been out of it ; and the great object of the aëration of the blood is, to free it of the carbonic acid gas thus constantly formed, and also to ingest more oxygen at the same time for the continuance of this oxidation-process. The average temperature of the internal organs is 98° (Fahrenheit) and above, that of the surface being 1° to 2° less. The hands and axillæ have, however, a temperature of 98° or 99° . As a proof of the cooling towards the surface from within, Becquerel and Breschet found the temperature of the calf of the leg at one-third of an inch from the surface was 94° , while at the depth of one and a half inches it was 98° . The highest temperature in dogs occurs in the vagina and rectum (101.75° to 105.790°). The muscles become hotter by 2° or 3° during contraction. During sleep the temperature falls 1° to 3° . Old persons and children cannot generate sufficient heat without increased aid from apparel. Doubtless much of the immense mortality of infants in this city is due to the want of artificial heat incident to the present fashion of dress. There is less calorific power in the human body in Summer than in Winter, and hence a sudden depression of temperature to a given amount in Summer is more productive of mischief, if not guarded against, than in Winter.

Chapter 31st is upon the voice ; how produced ; structure of the human larynx ; action of the laryngeal muscles ; the nerves ; chest

voice ; falsetto voice ; singing ; and speech. The pitch of the voice varies with the tension of the chordæ vocales ; its loudness with the size of the aperture of the glottis. The following tabular arrangement shows the precise action of each of the intrinsic muscles of the larynx in modifying the pitch and the intensity of the voice :

Crico-thyroidei.	{ Stretch the vocal cords. }	Govern the pitch of notes.	Open the glottis. }	Govern the loudness of notes (i. e. the aperture of the glottis).
Thyro-arytenoidei.	{ Relax and place the vocal cords parallel, for vocalization. }			
Crico arytenoidei postici.	{ Separate the front of the arytenoid cartilages. }	Close the glottis. }		
Crico-arytenoidei laterales.	{ Press together the front of the arytenoid cartilages. }			
Arytenoidei.	{ Press together the back of the arytenoid cartilages. }			

Chapter 32d is on secretions and excretions ; the anatomy of secreting organs generally ; the gland-cell ; gland-ducts, &c.

Chapters 33 and 34 discuss the secreting glands ; the pancreas, liver, and kidney. Dr. Beale's researches in respect to the minute structure of the liver are given at length ; according to which the "parenchymal cells" of the liver are contained in prolongations of the hepatic ducts, and the liver, therefore, does not differ essentially in its minute structure from other compound glands, as Kölliker and others had maintained.

Chapter 35th is headed "ductless glands ;" including the spleen, the thyroid, and the thymus glands, and the supra-renal capsules. Mr. Gray's work on the spleen is the main authority referred to in regard to that organ, and his idea of its function is adopted, viz : that it is a diverticulum of the hepatic circulation ; disintegrates the red corpuscles of the blood, and stores up albuminous matter from the food for future use, when more is taken than is immediately required. Nothing positive and precise is yet known of the function of the supra-renal capsules. They evidently have no functional connection with the kidneys ; and the experiments of Brown-Sequard show that they are very important in the economy. There is nothing new respecting the thyroid ; nor, since the investigations of Mr. Simon, in regard to the thymus.

Chapters 36 to 40 inclusive, discuss the subject of generation. The principal topics considered are : fissiparous and gemmiparous generation ; metamorphosis and metagenesis ; sexual organs in the invertebrata and the vertebrata ; male organs of generation ; female do. do. ; puberty and menstruation ; maturation and discharge of ova ; heat and rut in animals ; corpora lutea, true and false ; impregnation of the ovum ; micropyle ; changes succeeding impregnation.

By *metamorphosis* is meant a change of form in the same embryo

during its development, as the *larva* and the *pupa* states of insects through which they pass before assuming the *imago*, or perfect form. In *metagenesis* the larva produces other larval forms without any generative act, and then die ; when the second generation of larvæ produce a third in the same way, and so on till at last the perfect being appears. Sometimes, however, the first larvæ produce the perfect being ; the latter, however, always producing *ova* (and not larvæ) in consequence of a generative act. Steenstrup has termed this process *alternation of generations* ; and Prof. Owen, *parthenogenesis*. As an illustration, Von Siebold has shown that the *cysticercus fasciolaris*, or fluke, found in the liver of the rat and mouse, becomes in the intestines of the cat, the *tenia crassicolis*, or common tape-worm of that animal. There are valid reasons for believing that the human tape-worm is derived from the liver-fluke of some lower animal, and very probably the hog.

It is certainly settled by Mr. Newport that in impregnation the spermatozooids actually penetrate and pass through the vitelline membrane of the ovum, and are thus brought into contact with the yolk in the interior, when they disappear, becoming liquefied. But how can the delicate spermatozooids penetrate this membrane ? In all insects, and in fresh water fishes, there is one or more *pore* or *tube* passing through the membrane of the yolk, and opening on its interior. This passage is termed the "*micropyle*," and through it the spermatozooids pass into the yolk. Dr. Ransom found that spermatozooids might remain for eighteen minutes in contact with the ovum without producing any sensible change in the latter ; but if one of them entered through the micropyle, a change occurred in about a quarter of a minute. His observations were made on the ova of the stickleback. The micropyle has not yet been seen in the mammalian ovum ; but Remak regards certain streaks in the zona pellucida as pores or micropyles through which the spermatozooids may pass.

Chapters 41, 42, and 43, are upon the development of the embryo, and is a very able digest of the present state of human embryology.

The 44th and concluding chapter is upon lactation ; giving an account of the structure of the lacteal gland, and of the chemical composition of milk.

The subjects in this part are illustrated by eighty-nine wood-cuts by Vasey, several of them being from drawings by Dr. H. Hyde Salter. Twenty-five of them are original with Dr. Beale, and ten of these are from his work on the Liver. Of the remainder, a considerable number are from Kölliker's work, already reviewed in THE

MONTHLY.* The only original illustrations from either of the authors, are seven from Mr. Bowman illustrating the minute structure of the kidney, and one, that of the liver. Evidently Dr. Beale has well accomplished the authors' intentions, and this part gives a resumé of the present state of science in regard to the subjects on which it treats. Of the preceding parts, also, we can still express a high estimate, though many advances have been made in histology and in physiology since the work was commenced.

Transactions of the Medical Society of the State of New York.

Transmitted to the Legislature February 9, 1857. Albany, 1857.

Fifty years ago, that is, in February, 1807, a Convention of delegates from twenty-two County Medical Societies, of the State of New York, met in Albany for the purpose of organizing the "Medical Society of the State of New York." This year this Society assembled to celebrate its semi-centennial anniversary. It was becoming, then, that at this time a retrospect of the events prominent in the history of medicine during the last fifty years, as well as those collateral to it, and which indirectly may have aided in the advances that have been made, should be taken. The President of the Society fulfilled this duty in his address, which forms the opening paper in these Transactions. Of the original number which composed the first meeting none live to tell the story of that day, and of the thirty-one different individuals who have presided over the deliberations of this Society, more than one-half have passed away forever. Their footprints upon the sands of time, however, remain, and Dr. March has in his address rapidly and briefly noticed some of the leading and most striking discoveries which were known to them, and left behind as a legacy to us.

In drawing the contrast between 1807 and 1857, Dr. March thus speaks of the superior advantages in the means of medical education :—

"In 1807, there were not half a dozen medical schools in the United States ; nor scarcely a greater number of hospitals. Now there are about forty medical colleges, or associations, where medicine and surgery are taught ; and it is probable that there are twice that number of hospitals scattered through the cities and large towns of the United States."

“When our medical colleges and schools were limited to five, and the hospitals of this country but a little more numerous; when the whole apparatus, chemicals, and chemical tests of the chemist’s laboratory could be almost packed in a bushel; when the anatomical museum of a college consisted of two or three smoky skeletons, a handful of disjointed bones, and a few coarsely injected preparations; and when a pathological cabinet was not known in our country,—it requires no very great stretch of the imagination to draw the contrast between the advantages of 1807 and those of 1857, for obtaining a thorough practical medical education.”

What is so ably done for the State Society by Dr. March, has been very pleasantly accomplished for the Albany County Medical Society by Dr. Sylvester D. Willard. This society is one of the original twenty-two county societies whose delegates composed the first State society. At its meeting in November, 1856, which was also its semi-centennial anniversary, Dr. Willard gave an historical address, which is included in the Transactions as its second paper. A brief sketch is here given of each of the ten members present in 1806, and an effort was made to learn who were the physicians and surgeons of the county during the two centuries which intervened from the founding of Fort Orange, and the commencement of the period when the men here mentioned began their career as guardians of the public health. The past, however, was silent, and Dr. Willard has snatched one name only from the oblivion of the tomb—Dr. Abraham Staats. He has, however, done justice to the memory of the founders of the Albany County Medical Society, and has given a very interesting historical paper, whose pages will afford material to him who, fifty years hence, may have to weave the story of a century.

The third paper is an *Eulogy on Samuel McClelland, M.D.*, by Thomas W. Blatchford, which is followed by a *Biographical Sketch of John McClelland, M.D.*, by Thomas C. Brinsmade, M.D., and a *Biographical Sketch of Henry Mitchell, M.D.*, by Augustus Willard, M.D.

The next paper is by Dr. EDWARD H. PARKER, on *Cholera Infantum, Diarrhæa, and Entero-Colitis—their relation to each other, their Pathology, and their Treatment*. This paper has been presented to our readers in the pages of the MONTHLY for May.

Improvements of the Public Health, and the establishment of a Sanitary Police in the City of New York, by JOHN H. GRISCOM, M.D., is the title of the paper which follows. It is an urgent, eloquent,

sound plea for a more thorough attention to sanitary laws. In it Dr. Griscom emphatically states that sanitary science does exist, although seemingly ignored by government and legislation, and that by means of it the laws of the growth and progress of epidemic disease, and the means of prevention are pointed out. The diseases amenable to preventive sanitary law are those known as the zymotic class, and Dr. Griscom says that in New York city the mortality from these diseases in ordinary years, averages over 25 per cent. of the whole, and to this may be added 25 per cent. more arising from scrofula, the result of bad air, bad diet, darkness, and destitution, clearly under the beneficial influence of sanitary regulation.

In views of these facts and others even more striking, he calls upon the State Society to exert its influence with the Legislature in demanding, "in the name of humanity and Christianity, that they interpose between us and disease those safeguards of science and law, which are able to save us from a large proportion of loss of property, health, and life."

Dr. GEORGE BURR communicates the next paper, on *The Types of Fever*. "Type, as applied to fever, signifies," says Dr. Burr, "a peculiar form, or character of the disease which distinguishes it from other varieties of fever." In considering the different forms of fever, as regards their type, no notice is taken of those which are symptomatic of some local disturbance, arising from phlegmasiæ, nor of those attending the appearance of any of the exanthematæ, but fever is only regarded as idiopathic, invading the whole system and involving all the functions of the body.

The grand division in the character of idiopathic fever, made by the author is that of *malarial*, or *intermittent*, and *continued* fever.

In the first periodicity is the distinctive feature ; in the second, the absence of any intermission of the febrile movement. Malarial fever has several sub-varieties, of which intermittent fever, or fever and ague is the simplest form. "This type is characterized by the occurrence of a chill, followed by fever of more or less intensity, which continues for several hours, when the fever is succeeded by profuse perspiration, forming what is called the last or sweating stage."

Bilious remittent fever is another sub-variety, distinguished from the preceding by the intermission between the paroxysm being less distinctly marked, sometimes not perceptible.

Congestive or pernicious fever is yet a third sub-variety, the type of which is that of a prolonged or continuous chill without the usual febrile reaction.

Each of these varieties is traced out by Dr. Burr. The phenomena present in each are graphically described, their rise and progress, and the regions of country in which they most frequently appear, as well as the season of prevalence are pointed out.

The symptomatology and pathology of malarial fever are discussed, and the causes briefly recapitulated, in this paper. Yellow fever is regarded as a variety of periodical fever, though differing from both malarial and continuous fever, being a class *sui generis*.

This paper closes with the consideration of the prevalence of fever in the different regions of the State. It is quite general, occurring rarely in an epidemic form. "The profession," says Dr. Burr, "does not, however, appear to regard this fever alike. It is often denominated typhus fever, typhoid fever, &c., others believe it to be malarial in its character, and of the remittent type." To this latter opinion he inclines.

The subject of continued fever is reserved for another report.

Dr. ORSON M. ALLABEN is the author of the next paper, which is entitled a "*Case of Death by Syncope from plugging of the Pulmonary Artery.*" The post mortem revealed an organized substance which probably had become detached from some part of the ventricular cavity, and carried by the impulsion of the heart into the pulmonary artery, which it closed, "thereby cutting off the supply of blood to the lungs, the left side of the heart and brain, and causing immediate death by permanent syncope.

The next in order is a paper on *Gangrenous Erysipelas*, by Dr. W. S. NORTON. A case is reported which was treated by free incisions, application of strong terebinthinated tincture of cantharides, followed by poultices, and stimulation by brandy punch.

The next is a *Case of Ovarian Tumor, successfully removed by extensive Abdominal Section, and recovery of the patient*, by NELSON WINTON, M.D. This case, if we are not mistaken, has already appeared in print, and it somewhat surprises us that it should have been admitted by the Committee on Publication, although an interesting case, as it was not originally communicated to the State Society, having been published previous to this meeting in the *Buffalo Medical Journal*. Previous to the operation the patient had been operated upon for paracentesis abdominis nineteen times, and altogether, 210½ pounds of an albuminous fluid removed. The tumor removed was multilocular, and weighed twenty pounds.

The paper which follows is by U. POTTER, M.D., entitled *Medullary Sarcoma*, being an account of a case operated upon, which

resulted fatally. The growths were presented to the Society for examination showing the different morbid appearances in different stages of development, accounting for the various names which have been applied to this disease.

Our limited space prevents us from giving that attention to the next paper which the subject and the value of the suggestions of the writer really deserve. Dr. BISSELL, in his paper on *Vaccination*, urges "an appropriation by the State of a few thousand dollars to enable this society, or some other more suitable organization (if such can be found), to establish and maintain proper depots for keeping and distributing vaccine virus, where physicians may at all times obtain it."

He also urges "the passage of an act by Legislature making vaccination 'a pre-requisite for admission into any public school,' or into any legalized volunteer company, and one of the sanitary rules of every public institution, educational, penal, or charitable," believing that these efforts would tend to check the spreading of small pox. We have some thoughts upon this subject which we should be glad to give in this connection, but our already too lengthened notice compels us to defer it for the present. The presence of small pox in our midst, and the apparent increase of mortality from this cause during the past year, makes some legislative action imperative, for we know that a means is in the possession of every one to guard against the approach, and to limit the ravages of this serious and loathsome disease.

Supra-malleolar Amputation. Its Relative Value. By C. V. BARNELL, M.D., is the next paper. It is the record of a case in which amputation was performed, as the title of the paper indicates, and the author gives preference to it above other operations, for the reason that upon the application of an artificial limb the body is supported by the bones at the point where the lower ends are largest, and when every tendon takes a ready and firm attachment to the end of the bones. This gives the attachments of the tendons for a resting point, instead of the small pointed ends of the bones pushing into a mass of flesh, as in case of amputation in the fleshy part of the leg.

A paper on *Hæmorrhage of the Urethra*, by N. C. HUSTED, M.D., is the next. This is also a report of a case. The hæmorrhage began during an intercourse, continued till it produced faintness, but ceased upon the application of cold to the penis and perineum, and the administration of Tr. ferri. mur. internally.

A case of Chronic Tubercular Splenitis: resulting in abscess, or entire disorganization of the parenchyma of the gland, by G. J. FISHER, M.D., closes the proceedings of the Society. The spleen examined after death was four times its natural size, and when first examined fluctuated. Upon incision it was found to be a mere sac, filled with a liquid or semi-liquid disorganized mass, which appeared to consist of pus, and the broken down or disorganized parenchyma of the spleen. The lungs were studded with miliary tubercles; the liver was indurated and exhibited numerous small tubercles.

Dr. Fisher has done a good service to the State Society, and to all those who have complete or uncomplete sets of the Society's transactions, in the carefully prepared Table of Contents and General Index, which concludes the volume of the present year. These extend from 1832—when the first volume was published—to 1856, the transactions previous to 1832 not appearing, addresses of the Presidents of the Society only being printed. The contents of the present number should have been added to the table furnished by Dr. Fisher, when it would have been complete for fifty years.

Constitution and By-Laws of the Westchester County Medical Society, and the Proceedings of the Society at its Annual Meeting, held in the Village of Sing Sing, June 3, 1856. Sing Sing, 1857. 50 pp.

If we are not mistaken, this is the first time that the Westchester County Medical Society has ever published its proceedings. It now comes in a form in which the reports and papers read may be of value to others outside the limited numbers of its members, and it would be well for other county societies to imitate its example,—not in deferring the publication of its proceedings till they have reached the mature age of this society, which is now nearly fifty years old,—but in sending out to the profession the experience of the year, in a permanent, tangible form.

The great value and influence of the State Medical Society, is in a great measure dependent upon the coöperation of county societies, and certainly if every county in the State would perform its duty in this respect as well as has Westchester County, the State transactions would offer still greater attractions, and be of even greater influence and worth.

The proceedings of the Westchester County Society, now issued, do not refer to any previous meetings, but the volume contains those

of the year 1856 only, with the addition of the Constitution and By-Laws.

The first paper is a *Report of the Committee on Medical Topography, Epidemics, and Endemics of the Southern Section of Westchester County*; by J. D. TRASK, M.D., of White Plains. It is a very admirable report, and speaks well for the readiness with which the practitioners of that section of the county responded to the call of the reporter. An effort is made in this report to investigate the sources of malaria, in those localities where it always prevailed more or less, as well as in other places in which it has more recently appeared, and it is remarked by the reporter that the wide spread atmospheric influence which has passed to regions never before affected, did not seem to increase, either in frequency or virulency, such diseases where they have previously appeared, but that the poison was diffused to new localities. The topography of various localities in the county, in relation to this class of disease, is investigated, and the character of the season as regards heat and moisture adverted to. The inference which Dr. Trask draws from the facts presented, is that with scarce an exception, those districts in which malarious diseases occur are in the vicinity of ponds, or of streams obstructed by mill-dams, or are underlaid by a bed of hardpan, which interferes with the drainage of the surface; and the seasons during which these diseases have especially prevailed through this portion of the country, have been accompanied or preceded by an unusual prevalence of both warm and rainy weather. The prevalence of other diseases, either epidemic or sporadic, are spoken of, and in some instances the treatment in individual cases are given.

In reading this report, we have especially noticed the administration of *veratrum viride* in remittent fever, by Dr. Gates, of Yonkers, and in a case of pseudo-membranous croup, supplied by Dr. Moulton, of New Rochelle, to Dr. Trask. On account of the favorable result from the use of this remedy in the latter disease, we extract the entire report of this case:

"A little girl aged five years was attacked in the evening, and took five grains of calomel, and one drop of Norwood's Tincture of *Veratrum* every half hour, and after three doses, every fifteen minutes, until the end of the second hour, when she vomited, and the pulse had fallen from 136 to 120 per minute. The wet towel covered with flannel was applied to the throat. At the end of the third hour the pulse was but 86, and in fifteen minutes longer was reduced to 73,—cough still croupal. After this she was kept under its influence

by varying doses, and she recovered. I have treated four other cases in the same manner, and always with satisfactory results ; in no case was there any return of laryngeal spasm, or any alarming symptoms after the system was brought under its influence. In a female child, three years old, the pulse was reduced in three hours from 158 to 70 per minute ; all signs of the disease disappeared, though symptoms of bronchitis followed, with a very annoying cough for several days. Young children with croup, high fever, and I think during apyrexia bear a larger quantity of this remedy than adults do in other diseases."

A very practical paper by Dr. G. J. FISHER, of Sing Sing, follows, entitled *Cases illustrating the effects of Needles accidentally penetrating different portions of the Body*. The counsel which advises the non-interference with these bodies, unless they can be easily removed, is reprehended, and it is emphatically laid down as the "duty of every surgeon to make immediate and thorough search for needles, or parts of needles, that have been driven into any portion of the body, where an operation for their removal can be made, without involving a serious risk of wounding some very important nerve, or other structure, or of exciting a high degree of inflammation." A case is reported where a darning needle, three inches long, had been swallowed, and fourteen months afterwards was removed from above the calvicle, towards its outer extremity, having probably passed through all the tissues, and some of the organs between the stomach and the point of removal.

A second case, where a portion of a needle left in the hand, was removed two years afterwards, having traversed the forearm, causing intolerable pain, a partial paralysis, emaciation, and loss of use of the limb. As the result of the operation, the patient regained the entire use of the arm.

A third case, where a needle was driven into the cavity of the knee-joint and broken off, the point entering the capsule of the joint. It was allowed to remain two days before any attempt was made to remove it. Dr. Fisher was then called in and removed it, but synovial inflammation had already set in, and the result was ankylosis of the joint. Dr. Fisher believes this could have been avoided by a speedy removal of the broken needle at the time of the accident.

The next paper is an apology for a Report on Surgery for the Northern Section of Westchester County, by G. J. Fisher, M.D., in which the usual complaint of chairmen of committees is reiterated, that no response had been made to their call for communications, and hence no report.

This is followed by the report of a case of *Loose Cartilage in the Knee-joint—Removal by an operation*—by Dr. G. HODSON, of White Plains. A long incision was made over the loose cartilage, down to the investing sac, in the direction of its long diameter ; a second incision opened the sac, the knee was firmly bent, when the loose cartilage suddenly sprang out upon the floor.

The transactions close with a *Case of Phlegmasia Dolens after Typhoid Fever : and the same of the upper and lower extremities after Parturition* ; by JAMES FOUNTAIN, M.D., of Jefferson Valley.

The treatment in both instances was full doses of opium and camphor, with emetics of Tart. Antim.

The Report of the Resident Physician of the New York Lunatic Asylum, Blackwell's Island, for the year 1856. New York, 1857.

The Report of the Resident Physician of the New York Lunatic Asylum, Dr. M. H. Ranney, is made to the Board of Governors, who have charge of those charities situated upon Blackwell's Island. It furnishes no exception to the general complaint from institutions of this kind, of the crowded state of the accommodations for patients. The number of those who are incurable, yet requiring the protection and care of an asylum, constantly increases, as the statistics in the pages of this report show. The whole number of inmates of this Asylum has doubled every ten years, though the number of annual admissions has not increased, indeed, on the contrary, has been less the last year than for any previous year since 1847. The daily average number of inmates during 1856 was 595 ; the number of admissions 366, of whom 69 were natives and 297 foreigners. Of the number discharged (276) 174 had recovered, and 81 were improved. The recoveries, as compared with the admissions, amount to about fifty in a hundred.

From the statement of the mortality in the Asylum we extract the following, which contains a warning to every one who dissipates his nervous resources, whether by mental labor or the exhausting habits of a metropolitan life :

“Sixty-six patients died during the year, making the mortality seven per cent. of the whole number (939) under treatment. This per centage is smaller than that of any previous year; the average mortality of the past ten years having been thirteen per cent. Although the general mortality has been so much diminished, yet, in a few

diseases there has been a decided increase, especially in that known as 'Paralysie Générale.' This fatal disease, which but a few years ago was described as rare, has increased to such an extent in the city, as to have been the cause of nearly one-fourth of all the deaths in the Asylum the past year. It seems to result from a disorganization and softening of the cortical portion of the brain, involving, if the disease be protracted, the medullary substance. Almost universally certain in its results, its victim seldom survives a longer period than two years after the first symptoms are exhibited. Indeed, so fatal is it in its character, that in no case have I seen recovery follow, where the symptoms were sufficiently well marked as not to admit of doubt. High living, late hours, and strong mental excitement combined, have been considered the most frequent causes of this disease."

The Physician's Prescription Book: containing a list of terms, phrases, contractions and abbreviations used in prescriptions, with explanatory notes; also, the grammatical construction of prescriptions, etc., etc.; to which is added a key containing the prescriptions in an unabbreviated form, with a literal translation, intended for the use of medical and pharmaceutical students. By JONATHAN PEREIRA, M.D., F.R.S. Lindsay & Blakiston, Philadelphia, 18mo., pp. 282.

This rather full title expresses very well the purposes of the book, and does not need any further minuteness of statement. The importance of writing prescriptions accurately, must be acknowledged; for it is not only a matter that concerns a physician's reputation as a scholar, but it may involve the life of a patient. It is getting to be the fashion with medical men, as well as others, to decry the use of Latin for this purpose, and to urge that our mother tongue be resorted to. In some respects there would be advantages in such a change; but, on the other hand, there would be disappointment in those who suppose that by such means we should rid ourselves of all difficulties. The well-educated and careful physician who sends his prescriptions to a well-educated and careful apothecary, will not make serious mistakes, whether Latin or English is used; and neither English or Latin will save the ignorant and careless from fatal blunders. The necessity of education, which is required by the use of Latin, is one argument in favor of its continued use. So long as it is used, this book will be of very great value not only to students, but to practitioners, for their memories will grow rusty, and they will fall into habits of writing prescriptions which are neither elegant nor accurate. We therefore commend this book to every one.

PROCEEDINGS OF SOCIETIES.

Tenth Annual Session of the American Medical Association.

NASHVILLE, May 5, 1857.—The Association met at 11 o'clock, in the Representative Hall of the State Capitol, the President, Dr. Zina Pitcher, of Michigan, in the chair, and upon his right Dr. W. K. Bowling, of Tennessee, one of the Vice Presidents. Dr. William Brodie, of Michigan, and Dr. R. C. Foster, of this city, Secretaries, were present.

The meeting having been duly organized, the first business in order was stated by the Chair to be the reception of the report of the Committee of Arrangements.

Dr. C. K. Winston, chairman of the Committee of Arrangements, on behalf of the committee and of the medical profession of the city generally, extended a sincere and cordial welcome to the members of the Association, in a few pertinent and appropriate remarks.

Dr. Winston then proposed that the roll of delegates, who had registered their names, should be read. The roll having been called, it appeared that twenty States were represented.

Upon the suggestion of Dr. C. K. Winston, Drs. Felix Roberston, John Shelby, and James Overton were made permanent members of the Association.

The President then stated that it was customary to take a recess of fifteen minutes in order that the different State delegations might appoint a member to serve on the Committee on Nominations, and the Association took a recess accordingly for that purpose.

At the expiration of the recess the Association was called to order, and the State delegations then reported their choice respectively of delegates to serve on the Nominating Committee.

On motion of Dr. Hooker, of Connecticut, it was resolved that the President, Dr. Pitcher, be now requested to deliver his annual address. Dr. Pitcher accordingly gave his retiring address, which is too long to be given in our pages.

The report of the Committee on Publication being called for, it was read by Dr. Casper Wister, of Pennsylvania, and on motion, was accepted and referred to the Committee on Publication.

Dr. Wister also read his report as Treasurer, which was received and adopted.

On motion of Dr. Flint, of Kentucky, Dr. R. T. Fleming, of Kentucky, was admitted as a member of the Association by invitation.

The committee on Prize Essays being called upon to report, requested further time, because of the late hour at which the essays were handed in, which was granted.

The President informed the Association that Dr. F. Campbell Stewart, of New York, Dr. Alden March, of New York, Dr. Isidor Glück, of New York, and Dr. Pancoast, of Pennsylvania, had been appointed to represent this Association in foreign scientific bodies.

The Committee on Medical Education was called, but made no report.*

The Committee on Medical Literature was called—no report.

The Committee on Medical Topography and Epidemics being called, a communication from Dr. J. C. Watson, of Maine, was read, asking for further time to make a report, which was granted.

Dr. Arnold, of Georgia, offered the following resolution, which was adopted :—

Resolved, That the Committee on Nominations be constituted a standing Committee during the present session of the Association, to which shall be referred all business of the Association on which an immediate vote is not required.

Dr. Jas. Mauran, of the Committee on Medical Topography and Epidemics for Rhode Island, being called for, the Secretary read his apology, which was accepted.

Dr. Peregrine Wroth, of same Committee for Maryland, sent in his report, with accompanying reports of Drs. A. M. White and Edmund E. Waters, which were received and referred to the Committee on Publications.

Dr. W. L. Sutton, of same Committee for Kentucky, sent an apology and asked for further time, which was granted.

The members of the same Committee for the States of New Hampshire, Vermont, Massachusetts, New York, New Jersey, Pennsylvania, Delaware, Virginia, District of Columbia, South Carolina, North Carolina, Tennessee, and Minnesota, being called, no reports were made.

The delegates from Connecticut and Louisiana being absent for the time, the consideration of their reports was postponed until tomorrow.

A report from Dr. J. F. Posey, of Georgia, was presented by Dr. Arnold, and subsequently withdrawn by him for the purpose of preparing an abstract of it.

The Committee on Nominations then appeared, and through their Chairman, Dr. J. B. Lindsley, reported the following officers of the Association for the ensuing year, viz :—

President—Dr. PAUL F. EVE, of Tennessee.

Vice Presidents.—R. J. Breckinridge, of Kentucky ; D. M. Reese, of New York ; W. H. Byford, of Indiana ; and Henry F. Campbell, of Georgia.

On motion of Dr. Arnold, of Georgia, the report was accepted.

The President-elect being absent, the Association adjourned.

Second Day, May 6—The Association met pursuant to adjournment.

Drs. Wister, Arnold, and McGugin, were then requested to conduct the newly elected officers to their respective seats.

Dr. Eve, of Tennessee, in taking the chair, addressed the Association, as follows :—

Gentlemen of the American Medical Association :—It is with deep

* Received after the adjournment.

emotion that I attempt to return you my heart-felt thanks for this distinguished honor. In elevating one so unworthy of this station, so ill-prepared to preside over your deliberations, or carry out the great designs of this body, I must express the apprehension that you have done yourselves injustice, and, it may be, not advanced its best interests. But, believing that this office should neither be sought nor declined, when tendered as it has been, after my State had declined to take any part in the nomination of a presiding officer, I enter upon the discharge of its onerous duties with much diffidence, and shall have frequent occasion to throw myself upon your considerate indulgence.

We are engaged, gentlemen, in a good and noble work. Life, the greatest of human blessings, and health, the sweetest stimulus to earthly enjoyments, are our end and aim. We live to secure the one and to preserve the other. To promote these all important objects, the medical profession of our country have, during the past twelve years, annually appointed delegates to assemble and counsel how this may be effected. And we are here to-day on one of these great festive occasions, and, amidst our mutual congratulations, these glorious reunions of good-will and fellowship among the brotherhood, must not forget that to us is committed the health and lives of others. In maintaining the honor and increasing the usefulness of medical science, we become the best contributors to the welfare and happiness of those around us. You have come up hither from the North and from the South, from the East and from the West, and have done well neither to count the cost nor calculate the sacrifice ; for the cause in which you are engaged is worthy of you. You present again the sublime spectacle of brethren from all sections of this widely extended Union, congregated to devise the best means to relieve suffering humanity ; and may I not add, we are here with

“ Our souls by love together knit,
Cemented, mixed in one ;
One hope, one heart, one mind, one voice.”

Dr. Hooker, from the Committee on Medical Topography and Epidemics for the State of Connecticut, being called on for his report, arose and explained that it was his understanding that the Committee were to have three years in which to make their report, and at the end of that time he would either be prepared or ask the indulgence of the Association for further time.

The President, under a resolution passed at the last meeting, appointed Drs. Currey, Grant, and Evans, a Committee on Voluntary Contributions.

Reports now being in order, the report of Dr. Posey, of Georgia, was called for. Dr. Arnold, of Georgia, read an abstract of the report of Dr. Posey ; all of which, on motion of Dr. Palmer, of Michigan, was referred to the Committee on Publication, under a suspension of the rule.

On motion of Dr. Wood, of New York, the reports which were

presented yesterday, were also referred to the Committee on Publication, under a suspension of the rule.

The State of Ohio being called upon for a report upon its Medical Topography and Epidemics, the Secretary read an apology from Dr. G. Mendenhall, who asked further time in which to make a report, which was granted.

The States of Mississippi, Missouri, Michigan, Illinois, Indiana, Wisconsin, Iowa, California, and the United States Navy, being called, no response was made.

A telegraphic despatch from Dr. J. M. Sims, of New York, who was to report on the Treatment of the Results of Obstructed Labor, was received and referred to the appropriate Committee.

A communication was received from the Southern Methodist Publishing House, inviting the members of the Association to visit that establishment, which was accepted.

A communication was read by Dr. Lindsley, of Tennessee, from the Medical Association of Washington City, inviting the National Association to hold their next annual meeting in that city. On motion, the communication was referred to the Committee on Nominations.

A resolution was offered by Dr. Bartlett, of Wisconsin, tendering a vote of thanks to the late President, Zina Pitcher, for the able manner in which he has presided over the deliberations of this body, which was unanimously adopted.

The reports of Special Committees for 1856-7, being next in order, they were called in order as follows :—

Inflammation—Its Pathology, etc.—Dr. E. R. Peaslee, Maine; asked further time. Referred.

Anatomy and Histology of the Cervix Uteri.—Drs. H. Hutchinson and Charles E. Isaacs, New York; no report.

Treatment of Cholera.—Dr. J. Taylor Bradford, Kentucky; no report.

Treatment best adapted to each variety of Cataract, etc.—Dr. Mark Stephenson, New York; further time asked. Referred.

Causes of the Impulse of the Heart, etc.—Dr. J. W. Corson, of New York; a communication was received, and on motion of Dr. Brodie, he was continued.

Causes of Infant Mortality, etc.—Dr. D. Meredith Reese, of New York, read an abstract of his report, which was referred to the Committee on Publication.

The venerable Dr. Shelby, of Tennessee, being present, was invited to a seat on the platform. His appearance was warmly acknowledged.

Dr. Hobbs, of Illinois, offered the following resolution :

Resolved, That a Committee on Essays (not including Prize Essays) be appointed, to whom all essays prepared for publication by this Association shall be referred, which committee shall transfer to the Committee on Publication, all essays they judge worth publishing. That said Committee on Essays make a full report of their proceedings to the Association at its next annual session; provided, authors

of rejected essays, being informed of said rejection by said committee, shall have the privilege of withdrawing their essays from the report of the committee to the Association.

On motion of Dr. Palmer, of Michigan, the resolution was indefinitely postponed.

The Secretary read a protest signed by Drs. Richard D. Arnold, J. Gordon Howard, Pike Brown, and George P. Padleford, against admitting the delegates from Oglethorpe Medical College, as follows:

NASHVILLE, May 6, 1857.

The undersigned, members of the American Medical Association, protest against the admission of delegates from the Oglethorpe Medical College of Savannah, on the ground that it is not a regularly organized college, it being a matter of public notoriety in Savannah, that during neither of the two sessions of its existence, have all the chairs been regularly filled. During its first session the chairs of Physiology and Materia Medica were not filled, except by a very few lectures by the gentleman appointed to them, and the same thing occurred during its last session as to the chairs of Materia Medica and Chemistry. All of which is respectfully submitted.

RICHARD D. ARNOLD, M.D.

J. GORDON HOWARD, M.D.

PIKE BROWN, M.D.

GEO. P. PADLEFORD, M.D.

After some resolutions were offered and some discussion,

On motion of Dr. Palmer, the whole subject was referred to a committee of three, to be appointed by the chair.

Dr. Brodie, of Michigan, moved as an amendment, that no Faculty Member of a Medical College be appointed upon the committee, which was accepted by the mover.

The Chair appointed as such committee, Drs. Wister, of Pennsylvania, Bemiss, of Kentucky, and Gibbs, of South Carolina.

Dr. Felix Robertson, the oldest physician in Tennessee, being present, was invited to a seat on the platform. He was greeted with marked consideration by the Association.

The calling of Special Committees was resumed :

Spontaneous Umbilical Hæmorrhage, etc.—Dr. J. Foster Jenkins, New York. Further time asked. Referred.

Use of Instruments in Obstetrical Practice.—Dr. Henry Carpenter, of Pennsylvania. No report.

Measures to be adopted to Remedy the Evils existing in the present mode of holding Coroner's Inquests.—Dr. Alexander J. Semmes, District of Columbia. Report presented, with the following resolution attached :

Resolved, That committees of three, in each State, Territory, and the District of Columbia, be appointed, and that said committee be, and they are hereby authorized in the name of this Association, to memorialize their respective Legislatures, to pass such laws as will best carry into effect the objects of the foregoing report.

The report was referred to the Committee on Publications, and

the accompanying report adopted and referred to the Committee on Nominations.

True Position and Value of Operative Surgery, etc.—Dr. J. B. Flint, of Kentucky. Further time asked. Granted.

Causes and Cure of Indigestion, etc.—Dr. G. Volney Dorsey, Ohio. No report.

Medical Jurisprudence of Insanity, etc.—Dr. C. B. Coventry, New York. Further time granted.

Human, Animal, and Vegetable Parasites.—Dr. Joseph Leidy, Pennsylvania. No report.

Value of strict attention to position in Treatment of Diseases of the Abdomen.—Dr. M. D. Darnall, Indiana. No report.

Milk Sickness.—Dr. George Sutton, Indiana. No report.

Blending and Conversion of the Types of Fever.—Dr. Clark G. Pease, Wisconsin. Communication sent, but not received. Postponed.

Best Substitutes of Cinchona, etc.—Dr. B. S. Woodworth, Indiana. No report.

Use of Cinchona in Malarious Diseases.—Dr. Franklin Hinkle, Pennsylvania. Report furnished. Referred to Committee on Publication.

Laws Governing the Absorption and Deposit of Bone.—Dr. John Neill, Pennsylvania. No report.

Intimate Effects of Certain Toxicological Agents in the Animal Tissues and Fluids.—Dr. John W. Green, New York. No report.

Intimate Structure and Pathology of the Kidney.—Dr. Charles E. Isaacs, New York. Further time granted.

Diseases Incident to Emigrants, etc.—Dr. Israel Moses, New York. No report.

Etiology and Pathology of Epidemic Cholera.—Dr. T. W. Gordon, Ohio. Partial report presented and referred.

Excretions as an Index to the Changes going on in the System.—Dr. H. A. Johnson, Illinois. No report.

Remedial Effects of Chloroform.—Dr. D. D. Thompson, Kentucky. No report.

Best Method of Causing an Increase in the number of Essays, etc.—Committee: Drs. Leidy, Wood, and Meigs, Pennsylvania. No report. Committee continued.

Changes produced in Composition and Properties of Milk, etc.—Dr. N. S. Davis, Illinois. Communication read and further time granted.

Stomatitis Materna.—Dr. McGugin, Iowa. Further time granted.

An abstract of the report of Dr. Fenner, of Louisiana, upon the Medical Topography of that State, was then read and referred.

Dr. Singleton, of Kentucky, offered the following resolution, which was unanimously adopted:

Resolved, That in the death of Dr. Grafton, of Mississippi, the American Medical Association has lost a talented and useful member, and society a benefactor.

On motion of Dr. Whitaker, of Tennessee, Dr. H. Ronalds was

expelled from the Association for giving certificate contrary to the rules of the Association.

Dr. Caspar Wister, chairman of the committee upon the admission of the delegates from Oglethorpe Medical College, reported as follows :

Dr. W. Benson asserts that for the past session the Oglethorpe school has been fully organized, that six professorships have been regularly filled, and that the occupants of these chairs have been in the constant fulfilment of their duties, except in cases of illness ; such instances having, however, at no time interrupted the regular course of lectures, the professor absent having had his place supplied by his colleagues. The seventh chair is admitted to have been vacant ; the duties were discharged, however, by other members of the faculty.

Dr. R. D. Arnold prefers no charges beyond those admitted above.

Therefore, your committee finding nothing that infringes upon the strict letter of the law of the American Medical Association, in reference to the admission of members, we recommend that all further action in this question be suspended.

CASPAR WISTER,
R. W. GIBBES,
A. M. BEMISS.

The Secretary read the following preamble and resolutions, which were unanimously adopted :

WHEREAS, It has pleased God to remove by death our fellow-member, Robert M. Porter, and because of his devotion to the interests of the Profession of Medicine, and his steady support of the American Medical Association,

Resolved, That this Association learned with unfeigned sorrow of his decease ; and that they have lost a firm and intelligent supporter, and society a benefactor and friend.

Dr. T. Bullard, of Indiana, offered the following :

Resolved, That in the death of Dr. John L. Mothersett, this Association has lost a useful member, and society a benefactor.

The Secretary read a communication from the Connecticut Medical Society, asking that the time for holding the meetings of the Association in Northern cities be changed to a later period in the year. Referred over to the next meeting by the Constitution. Adjourned.

Third Day, May 7. The Association met pursuant to adjournment. The minutes of yesterday were read and adopted.

Dr. Hoyte, from the Committee of Arrangements, read the names of additional delegates to the Association, who had arrived since the meeting of the Association yesterday.

The Secretary read a communication from Dr. Clark G. Pease, of Wisconsin, which accompanied his report on "*Blending and Conversion of the Types of Fever.*"

Dr. Hooker, of Connecticut, moved that the report be referred to the Committee on Voluntary Contributions.

Dr. McKinley moved to amend by having a portion of the report read, which was lost, and the motion recurring to refer the report, it was carried.

Dr. Currey, from the Committee on Voluntary Contributions, submitted the following report, which was accepted :

The Committee on Voluntary Contributions has examined the following papers, and recommend them for publication in the Transactions of the Association :

1st. A new Principle of Diagnosis in Dislocations of the Shoulder Joint. By L. A. Dugas, M.D., Professor of Surgery in the Medical College of Georgia, Augusta ; accompanied by four photographic plates illustrating the principle.

2d. Medical Statistics of Washington Territory. By George Suckley, M.D., U. S. A., embracing, 1st, Geological Divisions of the Territory ; its Geology, Meteorology, Fauna. 2d, White population, and its diseases. 3d, Native population ; Diseases ; Medical Practice ; causes of their rapid disappearance ; concluding remarks.

3d. Medical Flora of Washington and Oregon Territories. By J. G. Cooper, M.D.

All of which is respectfully submitted.

R. O. CURREY,
R. T. EVANS,
GEO. R. GRANT.

Dr. Yandell offered the following resolution :

Resolved, That this Association reaffirm the principles respecting the rights of constituent bodies announced in a report contained in Volume V, of its Transactions, in the following terms :

"The Faculty of every Medical College, shall have the privilege of sending two delegates to this Association, *provided*, that the said Faculty contain not less than six Professors, who give one course of instruction annually, of not less than six weeks, on Anatomy, Materia Medica, Theory and Practice of Medicine and of Surgery, Midwifery, and Chemistry ; and also that said Faculty requires that its candidates for graduation, among other requisites, shall have attended two full courses of lectures, with an interval of not less than six months between them, one of which courses must have been in their Institution."

Dr. Breckinridge in the Chair.

Dr. Buchanan proceeded to discuss the resolution, and at the close of his remarks, moved to lay it on the table, which was subsequently withdrawn.

Dr. Boring offered the following resolutions in lieu, which he proceeded to discuss :

Resolved, That this Association has not the power to control the subject of Medical Education.

Resolved, That the great objects of this Association are the advancement of Medical Science, and the promotion of harmony in the profession.

Resolved, That the attempt upon the part of this body to regulate Medical Education, having most signally failed in its object, and already introduced elements of discord, any further interference with this subject would not only be useless, but calculated to disturb and distract the deliberations of this Association.

Dr. Currey offered the following resolutions in lieu of the whole :

Whereas, The subject of Medical Education has been committed at each annual Session to Standing Committees, and various suggestions have been proposed, which the Association has adopted, and recommended to private instructors and to the Medical Colleges,

Resolved, That a Committee of five be appointed by the Committee on Nominations, as a Special Committee, to be composed of members who are in no respect connected with any Medical School, to devise a *System of Medical Instruction*, to be presented for the consideration of this Association at its annual Session in 1858.

Resolved, That the proposed system shall set forth a uniform basis, upon which our Medical Institutions shall be organized, as well as have reference to the best mode of securing the Preparatory Medical Instruction to the Student, and that consequently the legitimate subjects to be embraced in said system, will include Primary Medical Schools—the number of Professorships in Medical Colleges, the length and number of terms during the year, the requisite qualifications for graduation, and such other subjects of a general character as to give uniformity to our Medical system, and preserve harmony and friendly intercourse in the ranks of the profession.

Resolved, That, upon the adoption of the proposed system by the Association, all Institutions which may conform to it shall be entitled to representation at the Annual Sessions of this Association, and none others.

The subject was further discussed by several members of the Association.

Dr. Reese, after some remarks, moved the indefinite postponement of the whole subject ; which was lost.

Dr. Arnold moved the previous question, which was lost, and the discussion proceeded at considerable length, when

Dr. Hooker moved the previous question on the resolutions of Dr. Currey.

The reading of the various resolutions being called for, they were read to the Association.

The motion of Dr. Hooker being in order, the previous question was called, and the resolutions of Dr. Currey were adopted.

Dr. Lindsley, from the Nominating Committee, submitted the following report :—

Secretaries.—Robert C. Foster, of Tennessee, A. J. Semmes of Washington City.

Treasurer.—Caspar Wister, of Philadelphia.

For the next place of meeting, Washington City.

STANDING COMMITTEES.—*Committee of Publication*.—Francis G.

Smith, of Philadelphia, Chairman; Caspar Wister, of Philadelphia; R. C. Foster, of Nashville; A. J. Semmes, of Washington City; Samuel L. Hollingsworth, of Philadelphia; Samuel Lewis, of Pennsylvania; H. F. Askew, of Delaware.

Committee on Prize Essays.—Grafton Tyler, of Georgetown, D. C., Chairman; J. C. Hall, of the District of Columbia; J. F. May, of the District of Columbia; Thomas Miller, of the District of Columbia; A. J. Semmes, of the District of Columbia; Joshua Riley, of the District of Columbia; and W. J. C. Duhamel, of the District of Columbia.

Committee of Arrangements.—Harvey Lindsley, Chairman, W. J. C. Duhamel, Cornelius Boyle, P. H. Coolidge, G. M. Dove, A. Y. P. Garnett, Wm. P. Johnston, of the District of Columbia.

Committee on Medical Education.—G. W. Norris, of Philadelphia, Chairman; A. H. Luce, of Illinois; E. R. Henderson, of South Carolina; G. R. Grant, of Tennessee; T. S. Powell, of Georgia.

Committee on Medical Literature.—A. B. Palmer, of Detroit, Chairman; A. F. Alexander, of Alabama; J. M. Mosgrove, of Ohio; P. Cassidy, of Pennsylvania; S. Pollak, of Missouri.

Vacancies in Committee on Medical Topography and Epidemics.—T. B. Shuford, to fill the vacancy caused by the death of Dr. Grafton, of Mississippi. C. W. Parsons, to fill the vacancy caused by the resignation of Joseph Mauran, of Rhode Island.

SPECIAL COMMITTEES.—*Spontaneous Umbilical Hemorrhage of the newly born.*—J. Foster Jenkins, of New York.

Influence of Marriages of Consanguinity upon Offspring.—Dr. Bemiss, of Kentucky.

Functions of Different portions of the Cerebellum.—E. Andrews, of Illinois.

Causes of the impulse of the Heart and the agencies which influence it in health and disease.—J. W. Corson, of New York City.

Treatment of the Results of Obstructed Labor.—J. Marion Sims, of New York.

Treatment best adapted to each variety of cataract, with the method of operation, place of election, time, age, etc.—Mark Stephenson, of New York.

Human, Animal, and Vegetable Parasites.—Joseph Leidy, of Philadelphia.

Best Substitutes for Cinchona and its preparation in the treatment of Intermittent Fever, etc.—B. S. Woodward, of Indiana.

Intimate structure and pathology of the Kidney.—Charles E. Isaacs, of New York.

Etiology and Pathology of Epidemic Cholera.—T. W. Gordon, of Ohio.

Inflammation of Cervix Uteri.—Henry H. Miller, of Louisville, Kentucky.

On Milk Sickness.—W. H. Byford, of Indiana.

Best means of causing an increase of the number of Essays.—Drs. Leidy, Wood, and Meigs, of Pennsylvania.

Changes produced in Composition and Properties of Milk.—N. S. Davis, of Illinois.

Stomatitis Materna.—D. C. McGugin, of Iowa.

On Criminal Abortion, with a view to its general suppression.—H. N. Storer, of Boston.

The Committee recommend that the Committees ordered by the adoption of the resolutions accompanying Dr. A. J. Semmes' report, be filled by the several State Societies.

On motion of Dr. Brodie, amended so as to refer the same to the officers of several State Societies. Carried.

The Committee also recommend the amendment of the third article of the Constitution, in relation to meetings, by inserting after the words "first Tuesday in May," the words, *or the first Tuesday in June*, and also by inserting after the words "shall be determined," the words, *with the time of meeting*.

Special Committee on the present state of science, as regards the Pathology and Therapeutics of the Reproductive Organs of the Female.—B. Fordyce Barker, of New York.

On Moral Insanity.—D. M. Reese, of New York.

On Calculi and the Diseases of the Urinary Organs, in Iowa, Minnesota, and Nebraska.—Dr. J. C. Hughes, of Keokuk, Iowa.

On the nature, tendency, and general treatment of Syphilitic Bubo.—Moses Gunn, of Detroit, Michigan.

Organic Chemistry—its progress and relations to Physiology and Pathology.—Professor Samuel St. John, of New York.

On Medical Education.—(By Dr. Currey's resolution,) James R. Wood, of New York; Geo. R. Grant, of Memphis, Tennessee; John Watson, of New York; C. B. Nottingham, of Macon, Georgia; Rene La Roche, of Philadelphia, Pennsylvania.

To fill a vacancy in the Committee on Medical Topography and Epidemics.—Dr. J. L. Cabell, of Charlottesville, Virginia.

Dr. March moved that the Report of the Nominating Committee be taken up, and each subject to which it refers, be considered separately, which motion prevailed. That portion relating to nominations was then adopted.

The place of the next annual meeting of the Association being the next subject in order, after some discussion, on motion of Dr. March, the report of the Committee was adopted.

Dr. Lindsley moved that, as Dr. Semmes, one of the newly elected Secretaries was absent, Dr. Brodie, of Michigan, be elected Secretary *pro tem*, which was carried.

Dr. Pitcher offered the following resolution, which was unanimously adopted :—

Resolved, That a Committee of three be appointed, of which the President of the Association shall be Chairman, to communicate with the Surgeon General of the Army, the chief of the Medical Bureau of the Navy, and the Secretary of the Treasury of the United States, with a view to secure the concurrence of the departments of the Federal Government, so that its contributions to the

Medical Topography, the Vital Statistics, and the Sanitary Police of the nation may be made tributary to the labors of this Association.

The Chair appointed as such Committee, Dr. Z. Pitcher, of Michigan, and R. H. Coolidge, of Kansas.

Dr. Bowling, Chairman of the Committee on Prize Essays, submitted the report of said Committee, as follows :—

The Committee on Prize Essays report that four essays have been received, each possessing great merit.

The Committee selected the following two Essays for the two prizes, provided for at the last meeting of this Association.

1st. One entitled "The Excreto-Secretory System of Nerves. Its relation to Physiology and Pathology," with the following motto :—

"Observation becomes Experiment when used in severe processes of Induction," and signed Henry Fraser Campbell, Georgia.

2d. "Experimental researches relative to the Nutrition, Value and Physiological Effects of Albumen, Starch, and Gum, when singly and exclusively used as Food," with the following motto :—

"Qum sequimur ? quove in jubes ? ubi ponere sedis ?

Da pater augurium, atque animis illabere nostris !"

and signed William A. Hammond, M.D., Assistant Surgeon, U. S. Army.

The President read an invitation to the members of the Association, to visit the University of Nashville, in its Military, Literary, and Medical Departments.

The Committee on Voluntary Contributions, reported in favor of the publication in the Transactions of the Association, of the following paper : "On the blending and conversion of Types in Fever." By C. S. Pease, M.D., of Wisconsin. The report was adopted.

Dr. McMurray offered the following resolution, which was adopted :—

Resolved, By this Association, that the Committee on Publications be instructed to append the Code of Ethics of the American Medical Association to each volume of its present and future Annual Transactions.

The amendments to the Constitution proposed by Dr. Stocker, of Pennsylvania, at the last Annual Session, were taken up and laid on the table.

Dr. Lindsley offered the following amendment to the Constitution, which was seconded by Dr. Gunn :—

"In Article II. omit the words 'Medical Colleges,' and also the words 'The Faculty of every regular constituted Medical College, or chartered School of Medicine, shall have the privilege of sending two delegates.'"

The amendment lies over until the next meeting of the Association, under a rule of the organization.

On motion of Dr. Palmer, the resolutions reported at the last Annual meeting of the Association, by the Committees on Plans of

Organization for State and County Medical Societies, were taken up and adopted.

The following Resolutions were offered and adopted :—

By Dr. Pitcher—

Resolved, That the members of this Association, as recipients of the cordial, generous, and elegant hospitalities extended to them by the profession and the citizens of Nashville, in placing on record an expression of thanks for the social amenities they have enjoyed during its Tenth Annual Session, wish also to leave behind them the assurance, that the recollection of their short sojourn in Tennessee, will be cherished as dearly as the remembrance of the far off sound of water, by the exhausted and way-worn traveller.

By Dr. Means—

Resolved, That the earnest thanks of this body be presented to the authorities of the State and City, who have tendered this magnificent State Capitol for their sittings during the present session.

By Dr. Byford—

Resolved, That the State and County Societies throughout the Union be requested to recommend their members to purchase the Transactions of the American Medical Association, and that their officers act as agents for the same.

On motion of Dr. Gunn, of Michigan, the Association recognized the presentation of a pamphlet by Henry Fraser Campbell, M.D., claiming "Priority in the Discovery and naming of the Excito-Secretory System of Nerves."

On motion of Dr. Byford, the Association then adjourned *sine die*.

Academy of Medicine.

A special meeting of the Academy was held on the 17th of June. It having been announced that the discussion on puerperal fever would be continued, and that a paper on chloroform would be read by Dr. Squibb, of the Navy, the attendance was large. The distinguished president, Dr. Mott, was in the Chair. The paper on chloroform (which we have the pleasure of laying before our readers in full) was first read, and much gratification was expressed by the fellows for the information it contained. A unanimous vote of thanks to its author at its close was a proper compliment.

After the reading of the paper was concluded, Prof. Barker rose and observed, that he felt under great obligations to the author of the paper to which we have just listened, and he was sure that such was the feeling of every member of the Academy present. It was a most valuable contribution to our knowledge of a very important subject. It will be conceded by all that chloroform is greatly preferable to all the known anæsthetic agents, provided it can be estab-

lished that it is equally safe, when perfectly pure and properly administered. From a very extensive experience in its use, he has long been convinced of its entire safety, except in some very rare idiosyncrasies, provided these two conditions were fulfilled, viz : purity of the article and its proper administration. For nine years he had been in the habit of using it very generally in his obstetric practice. In some cases, the patients had been kept under its influence for many successive hours, without any subsequent ill effects, even the slighter ones, such as headache, sickness of the stomach, etc. One patient was kept continuously under its influence for twenty-six hours, and not the slightest unpleasant result followed. Her condition was such, that during this time he did not dare to suspend its use, for when she was permitted to partially come out from under its influence, symptoms appeared indicating imminent danger of convulsions. He has used the chloroform repeatedly in cases of convulsions both puerperal and infantile. He has also often administered it, for his surgical friends, in severe operations, but always, for obvious reasons, with a reluctance which he did not feel at all in his obstetric practice. Within the last few years, he has many times brought the patient completely under its influence in order to make a necessary physical exploration, where it could not be accomplished otherwise on account of the attendant pain and suffering. In two cases he had seen the patient come near dying, where the chloroform was used, but in both instances, he thought the result was due to the *mode of administration*, rather than to the chloroform. Several thicknesses of napkin were saturated with the chloroform and pressed tightly upon the nose and face, and retained there until the appearance of the patient gave a most significant warning for its removal. If simple water had been used in this way instead of chloroform, the patient could hardly have escaped asphyxia.

He has long felt that the importance of a pure article could not be too strongly insisted upon. In 1849, he received from Edinburgh some bottles of the chloroform made by Duncan and Flockhardt, of that city, and since that time he has used no other except in some few instances, when he was out of the article, and in two or three instances at Bellevue Hospital. He had always maintained that the article was essentially different from that which was obtained here, of either the American or the French manufacture. He thought that he was always able to detect the difference, even from the odor alone. As was before remarked, he never had seen

any unpleasant effects follow its use in *obstetric practice*, and he must add that in the few cases in which he had seen nausea, headache, nervous palpitation of the heart, &c., follow its use, it was not Duncan's and Flockhardt's chloroform which had been used. He had endeavored to persuade some of our druggists to import it from Edinburgh, but after consultation with other physicians they had been led to believe that it would be useless and unsaleable because the American chloroform was just as good. He therefore had been compelled to import it himself for his own use. It is cheap, quite as cheap as the American, and a good deal cheaper than the French chloroform, costing in Edinburgh five shillings sterling per pound. About a year since, he had the pleasure of visiting the Naval Hospital, of Brooklyn, in company with Prof. Bowling, of Nashville. The laboratory, under the charge of Dr. Squibb, was to him full of interest, and he was convinced that our navy now had greatly the advantage of the rest of the community, inasmuch as they were supplied with *pure medicinal agents*. He there saw specimens of chloroform which he could not distinguish from the Edinburgh chloroform. He was certain that it was pure chloroform. But unfortunately this chloroform could not be obtained for the profession at large. He had yet to hear of a single case of a fatal result from the use of this chloroform in the navy, and he believed that the singular exemptions from fatal results in Scotland, where chloroform is most extensively and freely used, is in a great measure due to the purity of the article. He had recently visited the laboratory of Messrs. Duncan and Flockhardt, and was greatly astonished at the quantity there manufactured. He was told by one of the clerks that about two tons per week of the chloride of lime was used for this purpose.

Dr. Barker earnestly desired that the public opinion of the profession should be brought up to that point which would compel the manufacturers of chloroform to give us an article equal in purity, superior if possible, to that made in Edinburgh. He thought it unfortunate, disgraceful in fact, that we were compelled to go abroad for an article which could be so easily made at home. He concluded by moving the thanks of the Academy to Dr. Squibb for his interesting and valuable paper, and that it be referred to the Committee of Publication. The motion was amended by referring it to the Committee on Materia Medica, when it passed unanimously.

Dr. John Watson said he noticed that the author spoke of various dangerous compounds as being present in chloroform. It would be gratifying to him (Dr. Watson) if Dr. Squibb would state what they are.

Dr. Squibb, in reply, observed that they were apparently compounds of chloryl, formyl, and ethyl ; but it is impossible to isolate them, for in attempting to do so they are almost sure to change. Their affinities are so weak, and their changes are so readily produced, that there is no certainty as to their precise chemical composition and relations. Of their effects, however, one could have abundant evidence, by examining the remainder after purification of the chloroform, these compounds being detained in that residue. He had tried them on animals with fatal results, and remembered particularly seeing a mouse die from the effects of some of these vapors, which, being heavier than air, flowed down upon the floor about which the mouse was playing.

The discussion of puerperal fever was then resumed.

Dr. Alonzo Clarke.—I will say a few words with regard to it, with your indulgence. It will be remembered that the pathology occupied a considerable portion of the attention of the Academy on a former occasion. I then stated that the fever was in its nature *inflammatory*. I also stated my conviction that those cases described by Gouch, Simpson, and others, as without lesion, were cases of pyæmia. That the pyæmia had its source in the inflammation of the inner surface of the uterus, and the facility with which uterine sinuses could convey the pus into the system, was shown.

Where a patient has died of puerperal fever, supposed to be without lesions, I had been able to demonstrate the existence of this pus, and I have not been able to demonstrate it in cases where patients have died of puerperal convulsions.

In addition to the views then given, I would state that when inflammatory fibrinous exudation has been found in the inner surface of the uterus without pus, pus may be the result of the same inflammation, as it extends to the terminal uterine sinuses.

In two cases, lately, I have found secondary deposits of pus in distant parts of the body, the results of the purulent contamination ; and yet the secretion was not pus, but was fibrinous, on the inner surface of the uterus.

We have lately had a form of puerperal fever at Bellevue Hospital, with the pathology of which I have not before been familiar, and which I think has not been so thoroughly studied by the profession as that of other forms. Its prominent lesion is inflammation of the inner surface of the uterus with evidences of general purulent contamination ; and the disease is unusually protracted. The patients have lived in several cases from ten to thirty days, and the most

mortem examinations have demonstrated the existence of secondary purulent deposits and pus on the inner surface of the uterus, and in its veins or lymphatics.

This form of the disease is more insidious in its approach, is often devoid of the symptoms that mark the onset of the ordinary attacks of puerperal fever, and is more allied to typhoid fever.

I can best illustrate this by giving the history of a case, drawn up for me by Dr. McEwen of the Hospital corps. (The case was given with great minuteness of detail as to the symptoms and treatment. We have room for an abstract merely.) The patient, aged twenty-seven years, was delivered April 26th, at Bellevue Hospital, of a living child, after a labor of an hour and a half. She complained of nothing until May 1st, when she had a slight diarrhœa, and shooting-neuralgic pains in the left supra and infra orbital nerves. The diarrhœa continued moderately until the 11th of May. On the 5th she experienced slight chilly sensations, and the chills were of daily occurrence during the remainder of the disease. The lochial discharge ceased May 9th. Perspirations were a prominent symptom from May 10th until her death. There was but slight tympanitis during the disease, and no abdominal tenderness. Deafness was one of the earliest symptoms noted, and this continued throughout the disease. Delirium was first noted on the 12th. The pulse varied in frequency from 80 to 120 until May 12th. It afterwards became more frequent. She died on the evening of May 16th. The principal autopsic lesions were *in the intestines*, the solitary glands were enlarged and distinct. In the *uterus* the blood was fluid or imperfectly coagulated in all the large vessels. On removing its connections with the left side of the pelvis, pus flowed in considerable quantities. Pus, apparently, infiltrated into the tissue anterior to the neck of the bladder and behind the symphysis pubis. Several vessels, either lymphatic or venous, in the substance of the organ contained some purulent fluid. Three or four small abscesses in broad ligament of the left side. Inner surface covered by a somewhat flocculent fibrinous exudation, stained of a deep brown, almost black color by a fluid of creamy consistence, and of the same hue which covered the whole inner surface. The fallopian tubes contained pus and were very red. Ovaries nothing noticeable.

Here is a case in which all the symptoms on which reliance usually is placed in the diagnosis of puerperal fever were absent at the commencement—no chill, no headache, no pain in the abdomen, no rapid rise in the pulse. In fine, there was no well-marked period of inva-

sion, such as we have been taught to expect in that disease. The first symptom that is noticed is the diarrhœa, and that occurred on the fourth day. In ordinary peritonitis the bowels are constipated, but in this class of cases the bowels either were loose or easily moved by medicines. The whole disease is marked by its *gradual* progress; the characteristic point is the recurrence of the chill, and the long perspiration that followed the chill, or of free perspirations without chills. So regular was this in the case just read, that I expected, and almost invariably found, my patient in a perspiration when I made my daily visit.

I wish to call particular attention to the condition of the solitary glands of the intestines. They were swollen, filled with a milky fluid apparently, and stood out on the surface of the mucous membrane in certain parts, like pustules, as they often do in small pox or cholera. I have been induced lately to attach importance to this lesion and its connections with pyæmia, having met with it frequently during the epidemic here described; and in some cases of purulent infection unconnected with the puerperal state. Dr. Heywood will recollect such a case, one that we examined together a few days ago. The Peyerian patches also participate in the diseased action in some of the cases. Thus the analogies of this case all ally it to common purulent phlebitis; such it undoubtedly would have been considered had it occurred in any other than the puerperal state, or even in this state, perhaps, if it had occurred alone. But its associations are no less important than the disease itself. It occurred at the end of a series of eleven cases, four of which had the peritoneal inflammatory lesions, and six appeared to suffer mainly from uterine phlebitis and pyæmia. Nine of the other ten cases all occurred between the 2d and the 12th of April. Dr. Clark then gave a summary of the tabulated symptoms in nine cases of puerperal fever, where there was peritonitis, and in five cases without peritonitis. All of these cases were fatal, and autopsies were had; so there could be no doubt as to the existence or non-existence of peritonitis. The result of this tabulated view of the symptoms, Prof. Clark remarked, did not give that clear distinction which he had hoped to have found even in that form of puerperal fever which is attended with peritonitis.

Dr. B. F. Barker did not rise at this late hour to occupy the time of the Academy, but to express the hope that the discussion may be continued another evening. The subject is one of great importance to every obstetrician, and in this country every practitioner is an obstetrician. The subject, as announced in the notice, is, "the

contagiousness and treatment of puerperal fever," and the whole point of the discussion must turn on its pathology ; for if it is merely a local phlegmasia, it cannot be contagious, and its treatment will hardly admit of discussion. What is its essential character ? Is it a local phlegmasia, or is it a zymotic disease ? He had the pleasure of being present the first evening of the discussion, but being necessarily absent the second evening, he had read, with great care, the remarks of Dr. Clark, as reported. He had also been deeply interested this evening, and felt greatly indebted to Dr. Clark for his researches and contributions to the morbid anatomy of the disease in question. But has this disease an anatomical character ? According to Dr. Clark it has : consisting of four primary lesions— inflammation of the peritoneum, inflammation of the veins of the body of the uterus, inflammation of the lymphatics of the uterus, and inflammation of the inner surface of the uterus or endo-metritis, which he considers to be in fact a limited phlebitis. With all due respect he was compelled to differ with him on this point. He had been accustomed to regard these lesions as bearing the relation of an effect instead of a cause. He had believed that there was no proportionate relation between the intensity of the symptoms and the amount of the local lesion. He had regarded puerperal fever as a disease having a distinct essential character, but as having associated with it, most generally, lesions of the peritoneum, or of the veins of the uterus, &c. ; but he had also believed that we may have peritonitis or phlebitis, or any other of the local inflammations, even in the puerperal woman, and not have puerperal fever. For example : we meet with phlebitis in the parturient woman in three forms,— the adhesive inflammation, as in the disease known as phlegmasia alba dolens ; the circumscribed puriform inflammation, in which little abscesses are found in the substance of the uterus ; and the diffuse puriform inflammation, constituting pyæmia. The very interesting case which Dr. Clark has so minutely detailed, seemed to him to be one of pyæmia, rather than a case of puerperal fever. Dr. Barker had no desire to bring his personal views before the Academy, but he thought the subject ought to be discussed most fully, and he therefore moved that the discussion be continued at the next meeting of the Academy. The motion was immediately passed *nem con.*

SELECTIONS.

On Paracentesis Thoracis.

Messrs. Editors :—A few weeks since, you asked for contributions from physicians in the city. I send you a copy of part of a letter to a young friend in Vienna, who had written to obtain my articles on Paracentesis Thoracis, published in the *American Journal of Medical Sciences* (April, 1852), and in the *Medical Monthly* (January, 1854). This letter may be considered as a continuation of the same subject. It may be asked—why say anything more upon the subject? I have two reasons; viz: 1st, the fact that some of the best men of the profession still doubt the advantage of the operation, and, at times, allow patients to die unrelieved. An eminent surgeon at the West informs me that he permitted one of his own patients to expire from a large pleuritic effusion, because he thought thoracentesis would give only temporary relief. 2d, the following cases are peculiarly interesting, and more important than those previously published.

Yours truly,

HENRY I. BOWDITCH.

Boston, May 25th, 1857.

Dear W.— . . . Since my last article on Thoracentesis, I have been more confirmed than ever in my belief of the importance of this operation as a remedial measure, to be used *not as a last resource*, but like any other simple remedy, if necessary, at any period of the disease. I still use the exploring trocar, although, in some instances, where there has been a tendency to a reaccumulation of fluid, I have used a larger instrument.

Since that article (October, 1853), I have operated on thirty-seven persons, and have punctured sixty-one times, either with relief or great relief, in all but one. This person was very intemperate in her habits, and was stupid with liquor when I operated; but the dyspnœa was so very great as to threaten immediate death. She was relieved, temporarily; but sank about twenty-four hours after the operation. With this exception, in not a single instance was there any untoward result. I cannot forbear giving some details of a few of the more interesting cases.

I.—I took seventy-eight ounces from a thin, nervous woman, who had been ill for six weeks, and who was gradually growing worse. Great relief followed immediately, and afterward there was a steady course toward perfect health.

II.—A lady, four and a half months advanced in pregnancy, had been ill for two weeks. When I saw her, July 26th, 1854, she was threatened with immediate dissolution. Her countenance was distressed and haggard; there was extreme orthopnœa, and the wrists were nearly pulseless; the lips were livid; the skin cold and clammy. A brief examination showed the left side of the chest full of fluid. Eight ounces of pus were all that could be removed. The immediately serious symptoms were, however, relieved. Between this date and September 5th, I operated three times, *i. e.*, whenever the symp-

toms became again severe. On September 5th, I used a large trocar, and left it *in situ*. In a few days, it was forced out by the expansion of the lung, and could not be reinserted. The opening healed in spite of my endeavors to keep it open. On September 20th, October 5th, and November 22d, punctures were again made for the relief of symptoms, which, however, never were so bad as before the first operation. On the last occasion, the large trocar was again used, and liq. iodinii compos. injected. Subsequently this fluid was injected several times. December 8th, an abscess formed below the point of puncture. This was opened with a lancet, and all discharge soon ceased through the canula. November 17th, she was delivered of a living child, which, however, was puny, and died in a few weeks. January 15th, 1855, a tumor appeared between the second and third ribs in front, and, when I saw it, projected an inch from the surface and was soft and fluctuating. It was evidently the pus from the pleura, preparing to form another opening—the fistula below, discharging but little. I declined puncturing it, but made a final, counter and permanent opening low down at the left side. January 31, she had acute pain and a rubbing sound, evidently from acute pleurisy of the *other side*. Of this, however, she was relieved in a week. From this period she went steadily onward toward health. February 16th, she was gaining flesh, and in March she resumed her household duties. She is now, May, 1857, in perfect health. There is scarcely any contraction of the side, although the respiratory murmur is less in the left than in the right chest. Eight years ago, I think, she would have been allowed to die.

III.—A physician, aged 60, had been ill for a few months, and had grown worse during a few weeks preceding my being called in consultation. He dreaded the operation, from his professional fear of it, and it was delayed. Finally, feeling that he was growing weaker, he consented to allow the puncture. One hundred ounces (!) of clear serum were removed, and with entire relief. No return of the fluid. The lung expanded in a few days, and in a few months he had his usual health, which is now perfect.

IV.—I saw (December 11, 1855,) a seaman, aged 73, with chronic cardiac disease, general dropsy of the chest, abdomen and extremities. He had had, for several weeks, permanent orthopnœa, and seemed gradually sinking. The right side of the chest was full of fluid. The operation of thoracentesis was suggested as a means of temporary relief. Ninety-one ounces (!) of serum were removed. No return of the fluid. The lung, in a few days, was fully expanded. The general dropsy disappeared, and with it all the severe symptoms, except the usual dyspnœa attendant on chronic cardiac disease in the aged. He lived in comparative ease for a year, and then died, suddenly, of his heart complaint.

V.—I saw an Irishwoman with Dr. Buckingham. She had been ill three months, and was unable to attend to her household duties. The sole disease was an effusion into the chest. Dr. Buckingham punctured and removed sixteen ounces of serum. No return of the

fluid ; vast relief to every symptom ensued. In a week she felt well enough to resume her daily work, and the lung was fully expanded.

VI.—April 2d, 1856, I saw, in consultation, a girl aged 6 years, who had been ill six weeks, and at the time of my visit was considered nearly moribund. I have no doubt she would have died if thoracentesis had not been performed. She had intense orthopnœa, great distress of the countenance and lividity of the lips, nails, &c. ; cold extremities, with a rapid, feeble pulse. There was flatness on percussion over both backs, which on the left side extended to the apex. At the right there was an obscure crepitation. At the left there was no r  le, and very obscure respiration. I punctured the left back, and could remove only four ounces of pure pus. Much relief, however, followed, and continued until the 7th (five days), by which time she was as badly off as before, and I again saw her. The attending physician had little hope of relief. I could scarcely have any, because of the complex and extensive character of the complaint on both sides. Nevertheless, I was unwilling to give up, without further effort. I determined to use a rather larger trocar (having previously, in all the operations cited in this paper, except the second case, used the exploring trocar and suction pump) and leave it in the wound. Several ounces of pus *gushed* out, and with the same relief as before ; but, unfortunately, in four or five days, the instrument was pushed out by the expanding lung. The opening soon closed, in spite of all endeavors on the part of the attending physician to prevent it, by probing, &c. On the 23d of the same month (16 days) a new operation was needed, owing to a return of all the above-described symptoms.

In consequence of the illness of the medical attendant, I subsequently took charge of the patient. At first, I used a common-sized trocar, and removed several ounces of pus. In about 48 hours I withdrew the instrument and introduced a shorter one. This was afterward changed for one that passed merely between the ribs, and projected but very slightly into the thorax. I could not prevent air from entering each time the wound was dressed. I used no injection, but administered to the patient *fusel oil*, two drops, three times daily, and ordered a nutritious diet. Very gradually, the lung expanded, but the tube remained in the opening until June 30th (68 days), when it was finally removed, there having been no discharge for four days. The respiratory murmur was then heard down to the point of puncture. The congestion, or chronic pneumonia of the right lower lobe, continued for weeks afterward. The improvement, however, in the rational signs was steady from the moment of the last operation. The patient is now, May, 1857, in perfect health, and no difference in form or respiratory murmur is perceptible between the two sides of the chest. She is without a single sign, either rational or physical, of the former disease, except the slight cicatrix at the point where I operated. I have no doubt whatever that *thoracentesis* saved her life.

VII.—About the same time that I was attending the preceding patient, I was called to another, a girl, aged 11 years. She was suf-

fering with great and constant dyspnœa, with accesses of severe orthopnœa, which threatened suffocation. The attack of pleurisy was recent, and the right side was evidently full of fluid. May 16th, I drew off thirty-two ounces of pus. Great relief ensued; but, on June 1st (14 days), she had a return of the suffocative accesses, and there were signs of a reaccumulation. I punctured near the point at which I had operated previously. There was complete dulness on percussion, and only a very distant sound of respiration was heard there. But I evidently punctured the lung, as nothing but a drop of blood followed the withdrawal of the trocar. Fully convinced, by the result, of the exact state of the parts, I immediately decided to operate in another place, in front, where the flatness was as great and less respiratory murmur was heard. I accordingly instantly withdrew the instrument and inserted it in front, and an inch higher up. *Eight ounces* of pus, of honey-like consistence, were withdrawn. From that moment, all serious symptoms disappeared. Fusel oil was used, with nutritious diet; and perfect health, with greater robustness than she had exhibited previously to her illness, were the results.

In this case, I presume that adhesions had formed behind, and the thick membranes, with a want of expansion of the superficial vesicles of the lung, caused the dulness on percussion, and the almost total absence of respiration.

VIII.—This case was similar to Case IV.; viz: an old man, with cardiac disease and effusion consequent thereupon. Orthopnœa and symptoms of approaching dissolution were wholly removed by a puncture and the withdrawal of *thirty-six ounces* of serum. The patient died, several weeks afterward, of his heart affection. Here the operation was undertaken solely for the relief of urgent symptoms.

IX.—A man was many years ill, and supposed to be phthisical. I was called in consultation upon him, suffering from an acute attack of pleurisy, with an effusion of three weeks' duration. At my visit he was preparing his will. He had had some very severe paroxysms of dyspnœa, in which all his attendants, together with his physician, thought him dying. I removed *sixty-four ounces* of serum with complete relief. The lung expanded within twenty-four hours, and in three weeks he was out of doors and in full business. He continues still in his previous health, *i. e.*, probably phthisical, but able to attend to all the duties incumbent on him as the head of a large business house.

I have thus given you the more interesting of my recent cases. The notes are very brief. The records I have of them are ample. In a word, since April 17th, 1850, I have operated upon sixty-two individuals, of both sexes and all ages. I have punctured one hundred and eleven times. I know of nothing in practical medicine which has afforded me more satisfaction than this simple operation. I use designedly the expression—practical *medicine*, in contra-distinction to surgery. The perfect simplicity of the operation, to one satisfied of the correctness of his diagnosis, allies it to venesection or vaccination. I am well aware that many will wonder, and some

perhaps will scoff at this classification. To such I would say—Do not theorize on your fears—*try the operation*, and then you can judge more clearly. You will find that, as performed in these cases (viz : with the exploring trocar), it is, 1st, as a general rule, less painful than a blister ; 2d, that (if I may judge from my cases) it *never* does harm ; 3d, when fluid is obtained, it *always* gives relief, either temporary or permanent ; 4th, that very often it is the chief, if not the sole means capable of relieving severe symptoms, and even of saving life.

If these statements are true—and I am as convinced of their truth as I am of anything in my whole medical experience—I am justified in asserting, that a physician does wrong and acts foolishly who allows any patient to suffer months or years of misery, or even death itself, from pleuritic effusion, at any age—from any cause and with any complications—without at least a *trial of thoracentesis*. I write thus strongly because I fear that surgeons, of even the highest reputation, still shrink from performing this operation. This fear, I presume, is owing to their considering it as similar to the operation laid down in all, or almost all, of their own manuals. From that operation they ought in most cases to shrink. That which is here advocated is of a totally different character, and is, so far as my experience goes, harmless.—*Medical and Surgical Journal, Boston.*

Excision of the Elbow-Joint.—We had the opportunity, on the 16th inst., of again seeing resection of the elbow performed by Mr. Fergusson, at King's College Hospital, on a healthy looking female, aged about twenty-seven years. The important and interesting peculiarity in this case was the early performance of operative measures for so comparatively recent an attack of disease. The disease of the joint has been only of six months' duration, with a fistulous opening at its outer side. A longitudinal incision was made, and about two inches of the ulna, the head of the radius, and lower part of the condyles of the humerus were removed, together with any surrounding affected matter. Amylene was given here by Dr. Snow.

In some remarks upon the case, Mr. Fergusson referred to several features of interest in this case, especially, such as resection when the disease was of so short a duration. Usually, the surgeon performs resection or amputation as a last step, after all treatment has been tried, which sometimes may extend over many years. But in the present instance he was disposed to step from the beaten path, and attack the disease at an early period. He felt assured nothing could be done by treatment here, and thought it as well to excise the joint. When the patient was on the table, there was great mobility of the joint in every direction, indicating a lax state of the membranes associated with that condition of the synovial membrane especially which appears to be incurable. Another feature of importance here was the mobility of the olecranon upon the humerus, depending upon the degenerated articular surface and pulpy thickening of the synovial membrane itself. There is no hope of cure in

such cases, and if it should occur, it would be after the lapse of many years. No author has made any observation, Mr. Fergusson said, of the peculiar movement of the olecranon process as in this case. He attaches no particular importance to the form of incision used, but looks to the facility which may be afforded in cutting away the ends of the bones. Sometimes he uses a single line, and sometimes an **H** incision. The former is about the oldest used, and is, in reality, no novelty. It so happens, he further remarked, that Parke was the first who made use of a single incision, and who ought to get the credit for it, if there is any merit in it. Moreau practised the **H** incision. Since the operation, the case has been going on well.

The same day that the above was performed, Mr. Coote, at St. Bartholomew's, excised a diseased elbow from a soldier of the 82nd Regiment, who was compelled to leave the service in consequence. He is twenty-eight years old, and fell upon his elbow eight years ago, which was followed by inflammation of the joint, with ulceration of the cartilages and disease of the ends of the bones. Complete excision was performed by a long incision, as in Mr. Fergusson's case, and the man is going on well.—*London Lancet*.

Apparatus for Fractured Clavicle.—(Communicated for the Boston Medical and Surgical Journal.)

Messrs. Editors.—I constructed the following apparatus for the purpose of preventing, in a measure, the deformity which so frequently results from fracture of the clavicle; and trial has proved it adequate to the object designed. If you think the description here given worthy a place in your valuable journal, it is at your service.

The apparatus consists of a short crutch, the shank of which is made of two pieces of steel, so as to slide up and down, and adapt its length to the height of the individual. At the top of the shank is attached a crescent-shaped piece of wood, to be padded in the form of a wedge; and at the lower part of the shank is a small foot-piece made to rest in the pocket of a broad leather belt, which is to be placed around the waist.

It is applied in the following manner: the belt is buckled around the waist, with its pocket between the anterior superior spinous process of the ilium and the *symphysis pubis*; the foot-piece is then placed in the pocket of the belt, the wedge in the axilla, and the arm drawn over the wedge until the elbow touches the side, where it is confined by a roller, or by other means.

All the indications required in the treatment of this fracture are thus accomplished; the shoulder is carried upward by the length of the crutch, outward by the pad, and backward by the direction in which the upward force is exerted.

The apparatus is cheap, and advantageous on account of its permanency; when well made and properly applied, it needs no interference until the cure is effected.

Yours obediently,

Albany, N. Y., April 22d, 1857.

H. M. WEEDON, M.D.

Length and Tortuosities of the Umbilical Cord. By JOHN S. BEALE, Esq., M.R.C.S.E., &c.

On looking over a record of midwifery cases attended by myself, I was astonished at the number of times in which the umbilical cord was found encircling the neck. In 1220 cases, it was once wound round the neck in 175, twice round in 32, and thrice round in 7 cases. In 1 case, the cord was crossed over the chest and back, and looped under both axillæ; it measured 58 inches in length. In 3 cases, there was a single knot on the cord, and on one funis were two knots. Dropsy of the cord occurred once, increasing its breadth to two inches, and rendering it very tortuous. The shortest cord was five inches in length. (In Dr. Rigby's "Midwifery" there is mention of a case in which it was but two inches long, and another in which its length was 61 inches, *vide* page 182.) I did not notice any unusual retardation of the labors in those of my cases to which I have referred, only more or less lividity of the neck and face, according to the time spent in the head passing into the world.

These cases give, as the average, about 1 in 5 in which the cord is so coiled. It seems surprising that in cases of alleged infanticide the plea of death being caused by the pressure exerted by the funis (without help) has not been seized upon to any extent by the counsel for the defence, for such a liability must tend to diminish the chances of life. These cases, however, rarely go beyond a charge of concealment being sustained.—*London Lancet.*

A Loose Body Found in the Peritoneal Cavity.—It was almond-shaped, about half an inch long, and at one extremity presented a minute projection, which was probably the remains of the pedicle by which it was originally fixed. The external surface was smooth and shining. On section, this body was found to consist of a firm semi-cartilaginous capsule, filled with yellow pulpy material containing some gritty nodules. On microscopic examination the contents were found to consist of fatty granules, and some irregular hard (mineral) masses requiring hydrochloric acid for their solution. This loose body was found in the pelvic cavity of a female subject. On examining the colon, one of the appendices epiploicæ attached to the sigmoid flexure was found much altered in structure, resembling, in fact, the body just described; and it was attached by a very small pedicle, so slender, indeed, that a very small force would doubtless soon have detached it. There could therefore be little doubt but that the body just described had resulted from a degeneration and separation of one of the appendices epiploicæ.—*Ibid.*

Specimens Illustrating the Formation of Loose Bodies in the Abdominal Cavity.—These specimens were found in a male subject, and consisted of two of the appendices epiploicæ attached to the transverse colon. They were both much altered in structure, about three-fourths of an inch in length, slightly flattened, and furnished with very slender pedicles. The one was very firm, and presented a semi-

cartilaginous consistence ; the other was dark-colored, and appeared to contain blood. It was quite possible that, owing to the construction of the pedicle, a vessel had burst ; and that accident might perhaps have aided the degeneration of the fatty appendix. In vol. vi. of the "Transactions of the Pathological Society" Dr. Van der Byl has described a loose body found in the peritoneal cavity, which he believed was formed in the manner he had just endeavored to prove. In connexion with this subject, Dr. Van der Byl alluded to the loose body removed from the hernial sac by Mr. Shaw ; and stated that in *The Lancet* for 1850, vol. i., p. 187, there was described "a large concretion lying loosely in a hernial sac," which was exhibited at the Westminster Medical Society by Mr. Canton, and which exactly resembled that exhibited by Mr. Shaw.—*Ibid.*

Twelvemonths' Incubation of a Vaccine Pustule.—M. Blache mentioned, at a late meeting of the Medical Society of the Hospitals of Paris, that M. Despaulx Ader vaccinated in October, 1855, a young lady who was leaving for England. No result was obtained, and he had a letter from his patient more than a twelvemonth afterwards, saying that vaccine pustules had just appeared on the spot where the punctures had been made. The pustules went through their usual stages, and their nature was verified by an eminent English physician.—*Ibid.*

EDITORIAL AND MISCELLANEOUS.

—Quite a commotion has been produced in the London medical world, by J. Weldon Fell, M.D., who has asserted that he could remove cancerous disease without using the knife. As we understand the matter, by some *hocus-pocus* he succeeded in persuading the authorities of the Middlesex Hospital, London, to assign him certain patients to be subjected to his treatment. The *Lancet* immediately came down on the whole arrangement, as violating by its secrecy the very principles of professional ethics, and deprecated the position taken by the surgeons of the institution. For this, or for some other reason, Dr. Fell has published a book on cancer and its treatment, in which he gives the formulæ which he uses, and thus pricks his own gas-bag, which must at once collapse and shrink to flatness itself. Will our readers be so kind as to pause a moment, and if absolutely necessary, take something to strengthen them before they read that Dr. Fell's remedy is—*puccoon*!!—that is to say in English, *Blood-root*, in botany *Sanguinaria Canadensis*. Hear what Dr. Fell says : "Many remedial agents were tried without producing the desired

effect, and all efforts to cure the disease were for a long time unsuccessful, and apparently hopeless *until I heard of a root used by the North American Indians on the shores of Lake Superior*, which the Indian traders told me was used by them with success in these affections. . . . And no doubt some poor squaw, suffering from this dreadful disease, was the first who applied it, after having tried all the simple herbarium of the uneducated savage without success, and then in despair applied the bruised bloody pulp of the white flowering puccoon." This is the old dodge of "Indian doctors," which with us in America is at once understood, deceiving none but the most ignorant. In sooth, if all the wonderful remedies ascribed to the Lake Superior Indians had been discovered by them, it would be abundant evidence that they were a most industrious set of men in the study of remedies. We remember to have read of an expedition for determining the boundaries of one of our Southern States, which on emerging from the untenanted forest, found an Indian settlement, where the women used puccoon to color the areola about the nipple as an addition to their beauty. The number of similar spots on the shirt bosoms of the party the next day was noted as remarkable. Can Dr. Fell's theory have sprung from this?

Chloride of zinc is the material with which this puccoon is combined, this being the usual formula :

R. Sanguinariæ Canadensis	℥ss. vel ̄i.
Chlor. Zinci	℥ss. vel ̄ij.
Aquæ	̄ij.
Pulv. Sem. Tritic. Hibern.	q. s.

Mix and form a paste the consistence of treacle. The skin is destroyed by nitric acid, "incisions about half an inch apart are made through the eschar, avoiding the living tissues, and the paste spread upon strips of cotton inserted into them daily." "Generally in the course of two to four weeks the disease is destroyed, and the mass falls out in the course of ten or fourteen days afterwards, leaving a flat, healthy sore, which generally heals with great rapidity." In "incipient cancer" he uses an ointment composed as follows :

R. Sulph. zinci	̄vj.
Sanguinariæ	̄ij.
Myricæ ceriferæ	̄i.
Extr. opii (aquos)	
Extr. conii	aa ̄vi.
Ungt. cetacei	̄vi.
mist. et fiat ungt.	

We hope this ointment is better than the Latin of the prescription.

Beside this he uses an iodide of lead ointment, but as there is no Lake Superior Indian in it we do not quote it. Dr. Fell entitles himself "M.D. of the University of New York," of which institution, we regret to say, we are informed that he is a graduate. For some time he had an office here, but was better known as a small politician than as a practitioner. It looks astonishingly as if he must be a branch concern of Gilbert & Co., the "Cancer Doctor," who occasionally figures in Broadway. New York may well blush for Dr. Fell, but London will have to put on a deeper hue for the surgeons of the Middlesex hospital who have been so humbugged by him.

—In order to make the topic of anæsthetics, on which we largely touch in this number, more complete, we extract from the proceedings of the Pathological Society, at the meeting on the 10th of June, the following discussion upon Amylene, the agent which is now coming into use in England :

Dr. Dalton called the attention of the Society to a specimen of amylene. He noticed a week or two since a report of Robant upon this subject, who has been using it for an anæsthetic, and is so favorably impressed with it that he recommends it in place of chloroform, in a great many instances. According to all Robant's experience, amylene holds an intermediate place between chloroform and ether, having a somewhat disagreeable odor, and in the majority of cases patients readily come under its influence, and as readily recover, while its secondary effects are very slight. Robant was induced to recommend it because he thought it possessed the advantage over ether of being more compact, and producing anæsthesia with a small quantity and very rapidly.

He has used it in 92 or 93 cases with no fatal result. Dr. Dalton tried very much to obtain, together with this, some French and English specimens, but was not able to do so. This was obtained from Hegeman & Clark, and was manufactured in Philadelphia. He inhaled it himself, but found it impossible to produce anæsthesia. The odor of this specimen is not very disagreeable at first, in fact rather pleasant, but taken for some time it was excessively repulsive, and gave rise to irritation of the larynx and trachea. It also produced slight nausea. He had heard of its being tried in some three cases without any effect. Possibly this might not be a good article, for it does not correspond to the description given by Robant. According to that writer, it has a very strong odor of naphtha. This has not, though it resembles it. It smells a good deal like spearmint. Robant says it is exceedingly volatile, so much so, that the

use of an inhaler is requisite, and he attributes the failure in its use to the neglect of this precaution. This specimen does not evaporate nearly so readily as ether, and not even so rapidly as chloroform. Since reading Robant's report Dr. Dalton noticed the first fatal case, occurring in the practice of Mr. Fergusson, last April. It has been given in 144 cases. In that instance it was administered by Mr. Snow himself. Dr. Dalton took half a drachm of this without any effect, while 20 drops of chloroform puts him to sleep in less than a minute.

Dr. Griscom stated that amylene was tried in the New York Hospital in a surgical case. The patient inhaled it for full fifteen minutes, but no effect was produced. That specimen had the odor of olefiant gas.

Dr. E. R. Squibb, U. S. N., said that the reason why the gentlemen have failed to obtain anæsthesia in these instances, is probably to be found in the circumstance that the substance is not amylene at all.

Amylene is commonly made by the reaction of chloride of zinc upon amylic alcohol; and amylic alcohol is obtained by the rectification of the crude fusel oil residue, or refuse of alcohol distilleries. It happens, however, from the peculiarities of the alcohol process here, that the crude fusel oil residue contains very little true fusel oil or amylic alcohol. He has repeatedly tried in vain to obtain true fusel oil or amylic alcohol from this residue, by the ordinary means of fractional distillation, and therefore believes that through the use of steam, and from other circumstances, the crude fusel oil of our alcohol makers, is very different from that obtained from the European distilleries. If this residue, as met with here, ever contains much true fusel oil or amylic alcohol, it is probably to be found in that portion which comes over from the stills at the very last of the charge, when the temperature is highest and nearest to the boiling point of the oil.

He has also twice tried to make amylene from the carefully rectified product of this residue, and each time obtained a substance, whose physical properties were similar to Dr. Dalton's specimen, and which was never supposed to be amylene, because the fusel oil from which it was made was not true amylic alcohol, and because its properties and reactions were very different from those given as belonging to amylene. From these facts, he has no hesitation in saying that the substance is not amylene at all.

It may be well to say that the alcohol manufacturers from whom the so called crude fusel oil was obtained for these experiments, stated that their entire residue, amounting to about a barrel a day,

was supplied upon contract to parties who were understood to be agents in this purchase for Messrs. Powers & Weightman, of Philadelphia, from whose establishment this specimen of so called amylene was obtained.

— The Academy of Medicine of Paris have been discussing the claims of Amylene, as an anæsthetic. Some of the most distinguished surgeons of the French capital had given it a fair trial, and agreed in pronouncing it inferior to chloroform.

— M. Vidal has lately prescribed (says the *Bulletin de Therapeutique*) in an obstinate case of herpes præputialis, a lotion composed of 40 parts (by weight) of glycerine to one of tannin, to be applied morning and evening. The herpes disappeared in ten days, and three months afterward had not reappeared. The case had previously been under treatment for six months without any benefit.

— A new Medical journal is announced as to be published in Constantinople, under the title of "The Medical Gazette of the East." It is issued under the authority of the Imperial Society of that city, and will be issued monthly. It is published in the French language. It is a notable characteristic of that nation, that where they send their armies they also send scientific men who are never forgetful of their profession.

— Mr. A. Chevalier published in a late number of the *Journal de Chimie Medicale*, a singular case of poisoning. A lady bought, at one of the large stores of Paris, some gauze, of an apple-green color, for a ball dress. It was sent to Madame C., to be made up. Five of her working-women, who were employed about the dress, were more or less seriously affected. The gauze was sent to a chemist, M. Payen, for examination, and he reported that it was, in the first place, colored by Schwenfurth's green; and that, in the second place, this green adhered so slightly to the stuff, that the coloring matter was very easily separated from it. Schwenfurth's green is an arsenite of copper, and of course an active poison. The *Revue de Therapeutique* states that steps have been taken to keep these goods out of the market.

— The corner-stone of "the Nursery and Child's Hospital," in this city, was laid with appropriate ceremonies on the 22d of June. The building is to be in 51st Street, between Lexington and Third Avenues. An interesting address was delivered on the occasion by Hon. Erastus Brooks, to whom the Institution is under great obligations, for the energy, wisdom, and success with which he seconded in the Senate their application for aid from the State. In fact it is doubt-

ful if it could have been carried without him. We have space for a few hard facts only, drawn from the address, and must omit much that is as interesting. Would it not be wise in the authorities of the institution to publish the address in a pamphlet form, for general distribution? There could scarcely be found a document better adapted to interest men as well as women in their undertaking. It is to be regretted that Mr. Brooks was not aware of the existence of a hospital for children at Manchester, England, that he might have given proper credit to it. Its first report, issued last year, shows great success, and will be referred to again. If we are not mistaken, a similar institution was attempted some years since in Boston, but failed chiefly because mothers were not admitted with the children, and would not give up the care of their children entirely to strangers. That was, however, a private charity.

But these are our Gradgrind extracts: "If more substantial evidence is needed of the approval of the State Government in the wisdom and benevolence of your labors, it is found in the gift, from an overstrained treasury, of ten thousand dollars, to enable you to erect a suitable edifice for receiving Infants and Young Children entrusted to your charge, and to enable you to provide such accommodations as will secure their health and comfort. In receiving this money towards the erection of a building, the cost of which will be almost three times the amount of the State appropriation, with every part and parcel of the edifice paired down to the lowest level of prudent economy, you practically pledged yourselves to the State, to complete this building, and to devote it to the objects set forth in your by-laws and constitution.

In the same confidence in the general necessity and benevolence of the Institution, the City Government granted, in the very heart of the city, the use of six lots of land,—one hundred and forty feet by one hundred,—on which this building is to rest, and where the corner-stone is now laid, the grant being unlimited, if the Institution shall endure, as God grant it may,—increasing in usefulness and honor to the end of time.

The managers have contracted to complete a substantial, convenient building 123 feet by 70, with two wings, one expressly reserved for the hospital, and a centre building seventy feet square, at a cost not exceeding \$25,000.

Of 553 persons received some time since, 204 were women, and 327 were children: 169 were born in America of Irish parents, and 249 were Irish, 43 English, 14 German, 11 French, 7 Scotch, and but 36 American. Of 160 children received in the Hospital, 146 were in a diseased state from pure neglect, such as burns, bruises, or falls, and from being drugged until restoration had become almost hopeless. There were among these little ones two cases of disease from the killing frosts of Winter, and most of them entered the Child's Hos-

pital upon the brink of the grave, and, as it were, invited to a consoling death.

Of these all but forty were restored as from death to life. In the three years in which the Nursery has been established, relief has been extended to 840 children, and to 451 women—making in all not less than 1291 recipients of this noble charity.”

— The following account of the peculiar physical anomalies found at the autopsy of a man who lately died at the Bellevue Hospital of consumption, was furnished to the *Evening Post*, by Dr. J. G. Johnson, Surgeon to the Hospital. The man, James Graham, a native of Scotland, was well known in our city, where he used to move himself about in a little four wheeled carriage, being unable to walk from his peculiar conformation :—

“ On the left hand the man had the thumb naturally developed, but only one finger, and never had had any more. This finger was enormously developed, and was four and a half inches in length. On the right hand there were two fingers—which, by the muscles attached to them, were found to be the little and the index finger. The patient never had any more. The index finger, which should have been the largest, was only rudimentary, while the little finger was about three times the size of the index finger of a laboring man, and was of the enormous length of five inches. In prehension, the thumb, and this *little* finger were employed, the index finger being only an assistant to the other ; it had only two joints, instead of three, as is usually the case : was quite short, and curved away from the thumb, so as to fill and form a circle with the little finger and thumb, when the hand was closed in grasping an object.

“ The legs were still more peculiar. He had never been able to walk, and had sat cross-legged, as a tailor does when at work, and as a result the right thigh and the leg had become anchylosed ; there was no knee joint and no motion at the knee. The foot was a club-foot, and had only three toes instead of five, and these toes were webbed like a duck’s foot. There was only one bone in the leg ; the fibula was wanting ; and there was only one bone in the foot, and that the os calcis. The other of the seven bones of the foot were wanting.

“ In the left leg there was also only one bone, the fibula wanting. There was motion in the knee-joint, but here there were two patellæ instead of one. In the foot, which was also club-footed, there were only three toes, which were webbed, and there was only a single bone, the os calcis, to which the toes united directly, the other of the seven bones of the foot were wanting.

“ The man had a very long, narrow chest. The legs were very feeble, the muscles hardly developed at all, while the fore-arm was

very powerfully developed. The man had moved from place to place in one of those small carriages which he could propel by a crank on either side. He was a watch-maker by trade, or rather the maker of dial faces for clocks and watches, and making business generally of jewelry, and in the business manifested considerable ingenuity, and had always been able to secure a situation, as long as he had been able to work, which was till within a year of his death. When too feeble to sit at his bench, or to move his carriage, he had sustained himself by crawling on his hands and knees along the streets and begging. A few days prior to his admission to the Hospital, too feeble to crawl home to his lodging-house, he had made his way late in the evening into a barber's shop in the Bowery, from whence he was taken to a lodging-house in the lower part of the city, and thence to the Hospital.

— We learn with great pleasure, that Dr. Frederick S. Ainsworth, of this city, has been invited to deliver the course of lectures upon Physiology and Pathology, at Pittsfield, and that he has accepted the post. The selection is one which cannot fail to give satisfaction both to professors and students. The high qualifications of the incumbent are well known; his unusually accurate knowledge of anatomy, together with many advantages of study abroad, and much experience at home in the practical duties of his profession, ensure the most thorough teaching to those who may attend his lectures.

In addition, the urbanity of his manners and his cheerful temperament will render him most acceptable to all with whom he is to be associated.—*Boston Med. and Surg. Journal.*

— Dr. J. P. Bancroft, of St. Johnsbury, Vt., has been appointed superintendent of the New Hampshire Asylum for the Insane, in place of Dr. J. E. Tyler, who resigned.

— Dr. John V. Lansing, of New York, has been appointed superintendent of the King's County Lunatic Asylum, at Flatbush, in place of Dr. Baisley.

Liquor Sodæ Chlorinatæ as a Local Application in Small Pox.— I have found a weak solution of the liquor sodæ chlorinatæ so beneficial in the affection of the mouth and throat, in cases of small-pox, that its efficacy cannot be too widely known. It may have been used by others; but, if so, I have not seen any account of it. In each case in which I have employed it, the effect has been extraordinary: one washing of the mouth and gargling of the throat has restored the patient to comfort, and ability to speak or swallow without difficulty. The strength I have used has been a drachm to half a pint of water. Applied to the skin, it has had the effect of allaying the troublesome itching; and I think it not unlikely that a much stronger solution, applied in the earlier stage of the eruption, might be as efficient in preventing pitting as some other remedies which have been recommended, whilst, at the same time, it could be more easily used.—*Mr. Gabb of Bewdley, in British Medical Journal.*

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ESSAYS, MONOGRAPHS, AND CASES.

On the preservation of Vaccine Virus, both in the fluid and solid state. By EDWARD H. PARKER, M.D., &c. &c.

What are the best methods of preserving the vaccine virus, is a question of practical interest to every one who is called upon to use it. Pure lymph when it can be had in good condition, is universally preferred; but when it is not possible to obtain it, we are compelled to resort to the crust or scab. Both the lymph and the crust are difficult of preservation, and the purpose of this brief paper is to call attention to some methods which seem to be better adapted to defend them from injurious influences than those usually resorted to. These methods are simple, can be used by every one, and are effectual, so that they seem to unite all advantages. Originality is not claimed for them, though it is believed that they will be new to many members of the Academy.

I. *Of the Lymph.*

This has been preserved in several different ways. The most common is that of smearing points of ivory, glass, platina, or quill with it, and allowing it to dry. This requires only to be moistened, as by the breath, before it is rubbed on the incisions made for its reception. Much care is necessary to preserve points thus prepared from dust and from excessive moisture and warmth. On this ac-

count, as well as from the risk to the lymph of being rubbed off, they cannot be depended on unless they are recent or have been protected with more care than can usually be bestowed upon them by persons occupied with practice. Points thus charged are, however, easily transported, and for immediate use are very convenient.

To keep the lymph in a fluid state, clearly a most desirable thing to accomplish, it has sometimes been placed between slips of plate glass, like microscopic object slides or smaller, and in this way it will remain a day or two without drying. Still it is exposed to atmospheric influences, and is apt to decompose or dry up. In the first case it is useless—in the second it is no better than when dried on points, and is much more inconvenient.

Still another mode is that which has been resorted to by the London vaccine establishment, viz : the use of small tubes with a bulb blown upon one end, somewhat like a thermometer tube and bulb, only smaller. To fill them it is necessary, having first pricked the vesicle that the lymph may ooze out, to heat the bulb, so as to rarefy and expel the air within it. Then by placing the mouth of the tube in the exuded lymph, as the bulb cools the atmospheric pressure will carry the virus up to occupy the place vacated by the air which is no longer rarefied. When all has been drawn up that can be, the open end of the tube is placed in a flame, as of a spirit lamp, and melted so that it is hermetically sealed. To use the lymph it is necessary to break off the end of the tube, heat the bulb, and either catch the fluid as it is forced out upon points, or allow it to drop upon the incisions made to receive it.

It is a disadvantage of this method, that the return of the air in the bulb to its ordinary condition, as the bulb cools, compels the virus to flow rapidly up, so that the least motion of the child or unsteadiness in holding the tube in the virus, is sure to admit air to the exclusion of lymph. Using heat to expel the lymph, is also inconvenient, and by adding to the formality of preparation tends to frighten the child who is to be vaccinated. The exposure of the bulb to be crushed in consequence of its diameter being greater than that of the tube, at the same time that its walls are thinner, is also to be enumerated among the objections to this method, especially when transportation of the lymph is to be taken into consideration.

To this method my attention was called by Dr. C. V. W. Burton, of Lansingburg, New York, who is a correspondent of the London

vaccine establishment, and by whom lymph has been received in this way, and in perfect condition. But the London institution has since abandoned this method in consequence of its inconveniences.

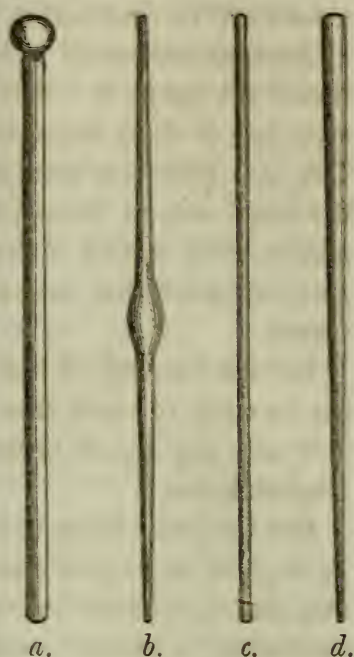
Another method of accomplishing the same thing, the preservation of the lymph in a fluid state, is by means of tubes open at both ends, but with an enlargement somewhat like a bulb in the middle. This is, I believe, a German method. The tubes are to be used in the same way as those previously described, the expansion in the middle being heated instead of the bulb at the end. The ends are then in succession melted, and the lymph is hermetically protected.

For use the ends of the tube are to be broken off, and the lymph can be made to exude from one end by gently blowing into the other, or if but one end is broken off, heat can be applied as in using the English tubes.

But the same thing can be better done by using glass tubes from $\frac{1}{20}$ to $\frac{1}{30}$ of an inch in diameter, and of the same dimensions throughout, that is, without bulb or enlargement. This method is the most convenient in practice, and the most certain to preserve the virus in a desirable condition. It is only necessary to take pieces of tube of the diameter before named, and about two inches in length (or they may be two and a half inches), and having them conveniently at hand the vesicle should be punctured and the lymph allowed to exude. Then holding the arm with one hand, take one of these tubes between the forefinger and thumb of the other, resting the little and ring fingers upon the patient's arm, that the hand may be steadier. Place the end of the tube directly in that portion of the lymph which it is desired to collect, and the fluid will instantly shoot up the tube about an inch. Other tubes can then be taken and filled in the same way, till all the lymph is taken up. It only remains to close them, and this is best done by allowing the virus to run down towards the end at which it entered, while the other is held at a little distance above but over the flame either of an alcohol lamp, which is the best, or if that is not at hand, a candle or gas jet. This expels a portion of the air above the lymph. The end should then be brought into the hottest part of the flame, and at once melted and taken out. As it cools, which takes but a few seconds, the lymph will be drawn from the open end, say half an inch. That in turn must then be placed in the flame and melted instantly, when the process is complete. By taking these precautions the lymph is not in danger of being burned, it being drawn away in turn from

each end, while it is sure to be free from air bubbles, and is entirely protected from atmospheric influences.

- a.* The English Tube.
- b.* The German Tube.
- c.* Tubes of uniform dimension.
- d.* Dr. Ford's Tubes.



To use lymph thus put up, it is only necessary to break off the ends of the tube and gently blow out the lymph. This can either be put upon points, which is most economical, or it can be allowed to drop directly upon the incisions.

For transportation, these can be packed in a large test tube, or in a strong goose quill, and in the latter way go safely by mail. Care must of course be taken to pack the ends with cotton.

Thus protected from moisture, lymph can be preserved during the hottest weather, by keeping it in a cool place, as a refrigerator, without the necessity of selecting one that is dry.

I desire to say that, after my attention was called to the London method by Dr. Burton, at my request, Dr. E. Lee Jones, then house-physician to the Demilt Dispensary, whose vaccinations have reached a very high number, kindly consented to try it, but finding some of the German tubes, made trial of them also, and gave them the preference. Afterwards, in correspondence with Dr. J. Hutson Ford, city vaccinator at Charleston, S. C., that gentleman suggested to Dr. Jones the last method of closing one end and then the other of a cold tube into which the lymph has been drawn by capillary attraction. Dr. Ford uses tubes which are of a gradually increasing diameter, but these are more difficult to obtain, and are no better than tubes of an uniform diameter. So also can the German tubes

be used without heating, but the liability of the bulb to be broken, makes them inferior to the simple tube.

II. *Of the Crust.*

Although opinions differ so much with regard to the use of the crust formed by the drying of the vesicle, some thinking it is quite as good as the lymph, others that it is never safe to use it, it remains true that it is often employed. For transportation, it is much the most convenient, and on this account only must often be depended upon. It is not quite so certain to take as the lymph, and the vesicle produced by it does not mature so soon by twenty-four hours as that caused by the lymph, but otherwise it seems equal to it. The crust when taken, should be carefully wiped upon its under surface to remove any pus that may adhere to it, it should then be scraped upon its edges and upper surface so as to remove any dirt or impurities that may have become attached to it, and from which alone bad results may arise in use.

Of the preservation of the crusts but little need be said, except that they should be kept cool, clean, and dry. Wax and tinfoil are commonly used to wrap them in, and they answer the purpose quite well. But the method of the London vaccine establishment is preferable. It simply consists in enclosing the crust in a pocket or envelope of gold-beater's skin. This is made from a piece of that membrane about an inch and a quarter long and half as wide, which is doubled upon itself and the sides moistened by the lips are turned over upon themselves, when they at once adhere. The end remains open till the envelope is to be used, when it is only necessary after putting the crust into it to moisten the edges and fold them over. This envelop is air tight, but sufficiently transparent to allow of complete inspection of the condition and quality of its contents. If other precautions are thought desirable, the envelope with its contents can be enclosed in wax or tinfoil, or put into close stopped vials, or all combined—or defended in any other way that the fancy or judgment may suggest. The gold-beater's skin does not interfere with any of them, but rather adds to their efficacy.

NOTE.—Since reading this paper, Dr. J. W. Richards, of this city, has informed me that he has been in the habit for several years of protecting the crusts, by simply wrapping them in a piece of paper, and then surrounding the whole with three or four thicknesses of machine spread adhesive plaster, which being pressed together without heat is impervious to the air and moisture. He has used successfully crusts which have been thus enclosed for one year.

I also find in an English journal * since received, the following concerning the advantages of the tubes for preserving lymph in warm climates. The Vaccine Board report to the Home Secretary of State (England) that "the transmission of lymph to Ceylon in hermetically sealed glass tubes has proved very successful, and with the lymph so sent 23,353 persons have been vaccinated." It would seem that the vaccine establishment has not abandoned the principle, if it has the precise form of the tubes.

Notes of the Surgical Clinic of Prof. D. S. CONANT, at the University of Vermont: Session of 1857. Reported by M. E. THRASHER, M.D., Prosector.

I propose to give a condensed history of the operations which were performed by Prof. Conant before the Medical Class of the University, during the Spring course, with such observations and clinical remarks as seem appropriate. It will include no new or wonderful operation,—simply such as every surgeon is liable to meet in his every-day practice ; yet many of them are of much practical importance, and I trust will not be wholly devoid of interest to the readers of the MONTHLY.

1. *Lacerated and incised wound of the Hand.*—This patient, a lad fifteen years of age, was brought to the clinic, having received an injury in the right hand by falling upon a circular saw. The wound across the hand was oblique : commencing on the ulnar side, the metacarpal bone of the little finger was severed near its middle, and the same bone of the ring finger near its lower extremity. The first phalanx of the middle and the second phalanx of the index finger were also sawn through. The wound was extensively lacerated and extended entirely through the textures of the hand, with the exception of some portions of integument on the outer surface. Hæmorrhage was but slight, though all the vessels of this region were divided. The two fingers of which the metacarpal bone were severed, together with that portion of the hand below the wound, were removed ; also the remaining portion of the metacarpal bone of the little finger, which was necessary in order to allow the integument of the two surfaces of the hand to be brought in apposition. The wound was then closed and sutures applied. The nearly severed portions of the middle and index fingers were properly adjusted

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and retained by adhesive straps, it being thought expedient to make an effort to save, if possible, those very important and useful appendages of the hand, though there was little hope of success. Patient was ordered to be kept quiet; diet unstimulating and easily digestible; cold to be applied to the hand, with the exception of the two fingers, which were to be kept warm by the application of tepid water.

In the course of twenty-four hours gangrene of the middle finger was evident, and at the expiration of forty-eight hours it was removed by amputation just above the head of the metacarpal bone. An additional portion of the metacarpal bone of the ring finger was also removed at this time. The index finger was doing well, union having already commenced between the fragments. From this time the case improved rapidly, and at the end of four weeks union and cicatrization were complete, and quite a useful hand was left the patient, though it presented a striking appearance.

2. *Strabismus*.—An unusually large number of cases of strabismus were presented. The operation for simple strabismus was five times performed, and in every instance with good success. The operation was not followed by fungus growth from the divided muscle, neither was bulging of the eye perceptible in any case.

Prof. Conant remarked in reference to this operation, that several modes of operating had been recommended. Some surgeons had preferred the sub-conjunctival incision, which was performed by inserting a narrow cutting instrument beneath the conjunctiva at a proper distance from the cornea, and then dividing the offending muscle. This mode of proceeding he would not recommend, since the operator could not be certain that all the fibres of the muscle had been divided, and however skilfully the operation was done, there was danger of wounding the sclerotica.

The second method was by incision. The conjunctiva was seized with the mouse-tooth forceps, which the operator held in his left hand, while with the curved scissors the incision was made in the conjunctiva equi-distant from the cornea and caruncula lachrymalis. The sub-conjunctival fascia was then incised, the blunt hook inserted, and the muscle elevated and divided with the scissors. A portion of the muscle could be removed or not as thought advisable.

The incision in the conjunctiva had been made by different surgeons, both vertical and transverse (most operators preferring the former). He had had experience in both methods, and preferred the transverse incision, that is, parallel with the fissure of the lids. He

urged in favor of this : 1st. That the organ was not as liable to become prominent or bulging in the region of the incision. 2d. Fungus growth from the divided muscle or fascia was less frequent. 3d. The cicatrix was less prominent and noticeable.

In the course of his remarks on this subject, Prof. Conant said, in regard to the result of the operation, that a thorough examination of the patient should always be made and the history obtained, as far as possible, in order to give the surgeon a complete understanding of his case.

Many times this deformity occurred in children simply from local irritation, as intestinal worms, teething, &c. Again, in the adult it might result from paralysis of some of the muscles of the organ, in which case it might be permanent.

These were conditions in which an operation would be likely to prove injurious rather than beneficial. But in cases of confirmed strabismus, existing from birth or appearing afterwards, where vision was impaired and the deformity was constant or nearly so, if the patient had free motion of the affected eye when the other was closed, he deemed an operation justifiable, and success probable if not certain, if the operation was carefully and thoroughly performed.

In cases where only one muscle was involved, as was positively shown by the position of the eye, if the operator was certain that the division of the muscle was complete, although the deformity was not wholly relieved at first, he would prefer to postpone further interference for awhile, hoping that, after the excitement and irritation consequent to the operation had subsided, the organ would assume its proper position. If it did *not* completely, a second operation might not be necessary, if the patient was directed to keep the sound eye covered and thus accustom the affected organ to the natural position. He would much rather do too little than too much. An opportunity was offered for illustrating the importance of these last remarks in one of the cases just mentioned. The patient was a delicate young lady. The deformity was readily noticed immediately after the operation, but upon the following day the eyes were in perfect unison. In another of these cases the deformity was not constant, but varied according to the condition of the patient. When fatigued or excited the deformity was increased. This fact was of course taken into consideration in performing the operation and a good result obtained.

Two other cases of strabismus were operated upon. One for double strabismus, and one in which two muscles were involved. In

the latter case the deformity was upwards and inwards, both the internal and superior recti muscles being at fault. Here the incision in the conjunctiva was made higher up than usual for the simple variety. The blunt hook was passed in each direction and the internal rectus was entirely divided and the greater portion of the superior rectus. The double strabismus was internal, and the operations were done as previously mentioned, one day being allowed to intervene.

In this connection I would mention the case of a gentleman who attended the clinic, affected with internal strabismus of the right eye, which had existed from childhood. Some points in the clinical history of this patient are very instructive and interesting. Several years ago while in California, he was accidentally struck by a buck shot, which entered the cranium through the superciliary ridge, directly over the left eye. This was followed by almost complete paralysis of motion in the right side of the body, and entire loss of vision in the right eye, and partial loss of vision in the left. In the course of a few months sight was completely restored to the left eye. Soon after this, the external portion of the retina of the right eye became sensitive to light, and gradually the power of vision was extended from this point to the entire retina. During this time the hemiplegia was gradually passing away, commencing with the lower extremity. At present he had almost entirely recovered.

Prof. Conant remarked in reference to this case, that he thought the seat of the trouble might be located by the phenomena produced. The shot, he believed, entered and passed through a portion of the brain—probably through the corpus striatum—and was now lodged in the bone at the base of the skull. The paralysis and loss of vision were produced by the lesion in the substance of the brain, caused by the passage of the shot through it. Cases are on record where a much more extensive injury of the brain than could have occurred in this instance, has been followed by complete recovery. The most singular feature of this case is, that the foreign body still remains innocuous somewhere within the cranium.

3. *Pterygium, with encysted tumor on the cornea.*—In this case the pterygium affected the inner portion of both eyes, extending nearly to the centre of the pupil. On the left eye, in addition to the vascular growth, was a cyst, about the size of a small pea, situated upon the cornea near its internal border. The cyst was composed of a very thin, transparent membrane, and contained an aqueous fluid.

It was thought possible that this tumor might have been formed

by the escape of a portion of the aqueous humor, through an aperture in the cornea ; and that there might still be communication between it and the anterior chamber of the eye. In order to decide this point, a small needle was introduced, a few lines from the tumor, beneath the vascular growth, and being carried forward beneath it, was made to puncture the cyst, and the contained fluid was allowed to escape. Pressure was now made upon the globe of the eye, but the cyst was not refilled, which was sufficient proof that no connection existed between it and the aqueous humor. The pterygium was then dissected from each organ and completely removed, together with the cyst from the left cornea. The cold water dressing was made use of for a short time, and after a few days the conjunctiva assumed its normal appearance.

4. *Ptosis*.—This patient was a girl fourteen years of age, suffering from ptosis of the left eye. The falling of the lid was not complete, yet vision was almost entirely obstructed. The operation consisted in the removal of an elliptical portion of integument from the lid. A fold of integument as large as was deemed necessary, was grasped with the forceps and elevated by an assistant, while four needles, threaded with sutures, were passed through about a line below the instrument. The tissue inclosed in the grasp of the forceps was then excised with the scissors. The sutures being already inserted, nothing remained to be done to complete the operation but to bring them together. Vision was completely restored in this case, and the appearance of the eye greatly improved.

5. *Anchylosis of the Elbow Joint*.—This patient, a man some twenty-five years of age, was exhibited to show the result of an operation performed by Prof. Conant during the previous session. The anchylosis was of several years standing, and was the result of an injury to the joint, by which the bones were dislocated and the olecranon process fractured. The patient was put under the influence of ether, and the arm, which was in the extended position, was forcibly flexed. The olecranon again gave way at the point where it was previously fractured, but notwithstanding this, he now presented himself with considerable motion of the joint, and on the whole, a very useful limb, compared with what it was before the operation. He was now able to carry the hand to his head, and do almost any kind of farm-work, while before the arm was perfectly useless.

6. *Deformity and uselessness of the lower extremity from permanent muscular shortening*.—This was one of those cases, which, when successful, give so much satisfaction to both surgeon and patient,—

where a great deformity can be removed and usefulness restored to a worthless and troublesome member, without a severe or bloody operation.

This man was twenty-four years of age. The limb was sadly distorted, and had been so for several years. The immediate cause seemed to be a permanent contraction of the gastrocnemius and soleus muscles, together with the flexors of the leg upon the thigh. The limb was entirely useless, the knee having become spontaneously dislocated outwards, by forcible contraction of the biceps flexor cruris muscle, and flexed so as to form nearly a right angle, while the toes were everted and drawn down almost in a line with the tibia, forming talipes equinus. The limb was of course considerably emaciated from inactivity. The tendo achillis, biceps, and vastus externus were divided by subcutaneous section with the tenotome. The offending muscles upon the inner side of the thigh were not divided at this operation, thinking they might aid in bringing the head of the tibia into its normal position. No inflammation followed the section of the tendons.

This patient was sent to the clinic by Prof. Smith of the University, who has paid considerable attention to deformities of this nature and has gained an enviable reputation by his skill in relieving them. He attended to the after treatment, which is a very important adjuvant to success in these cases.

Quite a novel appliance for a splint was made use of in this case, which for its efficiency, convenience, and cheapness, (especially for surgeons in country practice, where splints are not so speedily made to order as in the larger towns,) deserves to be noticed.

It was composed of the common hoop iron of a convenient width, properly wound and padded. This could be changed in shape by bending, as often as the condition of the limb required, without the lumbering appendage of hinge and screw. It offers no impediment to bandaging the limb to which it is applied, and can be changed from one side of the limb to the other at pleasure, thus avoiding the effects of too long continued pressure upon any part. This, together with its lightness, are important points to be secured where a splint is to be made use of for so long a time as becomes necessary in these cases.

This limb improved rapidly. At the expiration of three weeks the dislocation at the knee was reduced, and the semi-membranosus, semi-tendinosus, and gracilis, were divided by Prof. Smith. After this the leg was capable of being extended, and when the patient

was standing the affected foot could be rested firmly upon the floor. The retentive apparatus was still continued, and exercise of the limb as much as possible enjoined. At present the case is progressing favorably and promises a good result.

7. *Compound fracture of the arm and forearm, with extensive laceration of the soft parts.*—This was a boy sixteen years of age. On account of the severity of the injury he was attended at his home.

At the time the accident occurred he was at work in a steam-mill, and in adjusting a belt was caught in the machinery and drawn over a shaft some ten feet above. The humerus was fractured in the middle third, and both extremities of the bone were protruding through the laceration in the tissues of the arm, which extended completely through the triceps, brachialis anticus, and a portion of the biceps muscle, leaving entire only a narrow band of integument, a portion of the biceps muscle, and what was most fortunate, the important vessels and nerves of the arm. Both the ulna and radius were fractured in the forearm, and projected through the soft parts, which were divided on the external surface of the arm, including all the supinators and extensors of the hand.

The dressing in this case was light and simple. The extremities of the bones were placed in apposition, and the mangled tissues brought together by sutures as accurately as possible. The fractured portions were then surrounded by light splints secured by bandages, and the limb allowed to rest upon a pillow in a comfortable and natural position. Cold water was applied locally, and anodynes prescribed, to allay the pain, which was at times severe. A high grade of inflammation ensued, followed by extensive suppuration and discharge of pus from the wounds. Tonics and stimulants were now resorted to, to support the system. The dressings were renewed twice or thrice daily, and the pus allowed to discharge as soon as formed. Although the injured arm was considerably swollen, pulsation at this wrist was nearly as full and strong as at the other.

The question of amputation was agitated, but it was decided to be advisable to make farther trial of the present course of treatment, relying upon the vis medicatrix naturæ, seconded by a good constitution and a condition of system above par, even at this time. This case is now doing as well as could be expected, but has not progressed sufficiently to warrant a prognosis.

8. *Tumors.*—Five patients with tumors were presented and operated upon before the class. Three of these were small and of the sebaceous variety, from the forehead, angle of the jaw, and scapular

region. Two cancerous growths from the region of the sub-maxillary triangle and one fatty tumor from the posterior scapular region.

One of the malignant tumors, about the size of an orange, was situated beneath the body of the jaw, a little to the right of the symphysis menti; the other, somewhat less in size, was lying directly upon the external carotid artery, and was perforated by the facial artery near its internal border. This patient had had two epithelial cancers removed from the lip, at some time previous, by means of caustics, leaving a very unsightly deformity.

The larger tumor was first removed, together with an elliptical portion of integument over its apex. It was found resting upon, but not involving, the levator muscles of the larynx. The other growth was removed by slightly enlarging the first incision. The intervening tissue was then divided with the handle of the scalpel, the tumor seized with the double hook, brought forward and carefully separated from its attachments about the carotid artery. The facial artery was necessarily torn across. Hæmorrhage was quite severe, but soon controlled after ligation of the divided vessel. The wound was then thoroughly searched, and several masses of diseased tissue removed. Union by first intention was obtained throughout the greater part of the wound, and in the course of ten or twelve days union was complete.

It was remarked in regard to this case, that a radical cure of the disease by this operation was more than could be anticipated; but the impediment which the tumors already offered to deglutition, together with the hope of temporary relief and delay of the fatal termination, were sufficient to justify their removal. At present there is no indication of a reappearance of the disease. The fatty tumor before mentioned was of large size. The operation was uncomplicated, and recovery rapid, union by first intention being secured.

9. *Deformity from badly adjusted fracture.*—Here was a sad condition of the lower extremity of a little boy, four years of age, resulting from a fracture of both bones of the leg. The accident occurred when the patient was six months old, and was not properly treated at the time. The fracture was at the junction of the middle and lower third of the bones. The tendo-achillis had become permanently shortened, and the leg at this point formed nearly a right angle. Bony union between the fragments was not perfect, and very slight motion was perceptible. When the weight of the body was borne upon this limb, the ligaments of the ankle joint had become so much relaxed that the angle at the point of fracture rested directly

upon the great toe. In this way the child was enabled to walk, but the limb was shortened to the extent of four or five inches.

The operation was performed by Dr. Conant, by resecting a triangular or V-shaped portion from the anterior surface of both bones just at the angle. This was allowed to include about two-thirds the thickness of the bones, the remaining third being left entire. The tendo-achillis was then divided subcutaneously, and the limb restored to its normal position by forcibly bending or partially fracturing the remaining portion of the bones at the point of excision. The attachments which remained after this process, were of course sufficient to retain the fragments in apposition. The limb was then dressed in the extended position, and recovery was hoped with but slight shortening. This case is now progressing favorably, and a good result can be confidently predicted.

A great variety of minor operations were performed,—as amputation of the uvula with the forceps and scissors, dilatation of the puncta lachrymalia, removal of the toe nail, together with the matrix, for radical cure of onyxia, amputation of the tonsils, &c.

The operation for amputation of the tonsils was done by placing the patient in a low chair, while the operator stood upon a stool or chair behind him, the head of the patient resting firmly against his knees. The tonsil was then seized with the double hook, and excised by means of the long probe-pointed bistoury.

Several other interesting cases were brought before the class, in Doctor Conant's absence, and attended to by Professors Thayer and Carpenter.

135 AVENUE B, NEW YORK.

Cod-liver Oil (Oleum Morrhue). *Some Observations on its Preparation and Therapeutic Uses.* By E. H. DAVIS, Professor of Materia Medica in the New York Medical College.

It is hardly necessary to offer an apology for again bringing to the notice of the profession the subject of Cod-liver Oil. Perhaps no article of the Materia Medica has of late years gained so great a popularity, or is more frequently relied on, in the treatment of certain diseases.

Yet the great diversity of results from the use of this article have caused some to lose faith in the remedy. It has long been a favorite with me, having used it in private practice with a reasonable degree

of success. But, some years since, I took charge of a college clinique, composed of the poorer classes, with broken down constitutions, of scrofulous, cachectic, and rheumatic tendencies, presenting all that variety of cases generally benefited by this remedy. Here I was disappointed in my expectations of the usual good result; so that, at length, I began to suspect something wrong in the quality of the article, especially as I knew their pecuniary circumstances compelled the patients to purchase it from the cheaper class of shops. To test the matter, I induced many of them to bring me specimens of the Oil they were using. These were subjected to the various tests recommended for determining its quality. Every variety was thus discovered, from the pale light brown to the darkest fish oil. Many of the specimens were composed of a simple fatty oil devoid of every physical or chemical characteristic of the genuine Cod-liver Oil.

This afforded, as I thought, a sufficient explanation of the frequent failures of the remedy. But mark my surprise, during a recent investigation, to find so much difference in specimens well authenticated as genuine Cod-liver Oil.

During the past year, the subject has been presented in various ways before the Academy of Medicine, and was referred, together with many specimens (obtained from the first druggists of the city), to the Section of Materia Medica. Their investigations proved a great variety even in the undoubted product of the Cod-liver—favoring the idea that the quality might depend much on the season of the year when the fish was obtained, and the locality, as well as the various modes of preparation.

To obtain more information, I addressed letters to several gentlemen familiar with the fisheries, and process of manufacture. I here subjoin extracts from a communication from Dr. H. W. Caldwell, which seems to furnish the facts most in detail.

“The various Oils mentioned, are obtained from the livers of the Cod found in the waters surrounding the island of Newfoundland and the coast of Labrador.

“The fisheries are carried on from the Spring to the Fall, in the different localities, according to the season and the circumstances, at a distance from the shore of from three to fifty miles, and at depths varying from fifteen to ninety fathoms.

“The quality of the Oil depends much on the freshness of the fish when the liver is taken from it, and still more on the method adopted for the extraction and purification of the Oil.

“The purest and best Oil is obtained from the livers of fish taken

at a distance of from three to eight miles from the shore, and in the immediate neighborhood of the port of St. Johns, N. F., during the month of June, when the codfish are unusually fat, from feeding on their favorite food, the 'cape-lin,' a small fish not more than three or four inches long, with which the waters of that locality abound at that period.

"The fisheries now under consideration are carried on by small boats of only two or three tons, which sometimes run in with a 'haul' three or four times a day ; the fish in that case (being still alive), are killed by blows on the head, and are taken to the factory. The livers are then taken out, washed very clean in fresh water, and thrown into large cauldrons. These cauldrons are double, having a space between filled with water, so that the fire does not come in contact with the surface of the inside one, containing the livers. Heat is then applied, and the water between the cauldrons kept at a *certain point* (a secret), for several hours, or until the Oil is nearly all extracted, and the residue, or blubber, begins to throw off a peculiar odor, when the process is stopped and the Oil is drawn off into a *cooler*, and thence passed through a purifying or refining operation, which is accomplished by running it through large bags filled with pulverized charcoal, which, also, to a great extent, removes the coloring matter and renders it clear, *light colored* and comparatively tasteless. The Oil is then racked off into air-tight barrels of about thirty gallons each, and shipped to all parts of the world.

"The common or impure Cod-liver Oil is of a dark brown color, and has a very disagreeable odor. It is also obtained from the liver of the Cod, but under different circumstances, and by a very different process. The fish in this instance being taken by much larger boats from fishing grounds at a greater distance from the shore. These boats vary from five to fifty tons, and are out for many days at a time, running in, when loaded, to the 'curing sheds' on the shore at different points, where the fish are split and salted, and the livers are thrown into large barrels having a fine grating near the bottom. These barrels are placed on a stand, and the livers not being fresh are soft, and melt easily. When exposed to the heat of the atmosphere for a few days, the oil running from them, through the false bottom into the receptacle placed to receive it.

"This is a *second quality* used to mix with, or adulterate the best. A weight is then placed on the residue, and a further amount of coarse, or impure oil, is expressed. This is the common Cod-oil, or Fish-oil, of commerce, and is used principally for tanning and other

manufacturing purposes ; and the blubber, in either case, is used for manure or the manufacture of oil-cake."

From all the facts we have been able to collect on the subject, the following conclusions may be deduced :

First (other things being equal). That the best and richest oil is obtained during the month of June.

Secondly, The fresher the fish from which the livers are obtained, the more pure is the oil, and the greater is the freedom from rancidity.

Thirdly, The artificial process of extracting the oil has many advantages over the former, and very slow mode of draining it out assisted by the heat of the atmosphere, as the latter involves the partial decomposition of the liver, thereby imparting an unpleasant odor and taste to the oil.

There has been quite a diversity of opinion in the profession with regard to the comparative value of the light brown, and the pale yellow oils. In Germany, and on the Continent generally, they prefer the former, whilst in England and America the latter finds most favor.

By analysis, De Jongh found the pale oil to contain scarcely any volatile fatty acid, and a smaller quantity of iodine, phosphate of chalk, and elements of the bile, than the light brown oil.

These biliary elements may be of importance in some cases, in rendering the oil more soluble and easy of assimilation. In fact, I have often found in cases where there was a lack of biliary and pancreatic secretion, that the addition of potash, or the carbonate of soda, makes a saponaceous compound more easily absorbed and appropriated by the system.

Cod-liver Oil is a very good vehicle for the administration of the iodide of iron. In scrofulous cases of children, I add two grains of the iodide of iron, or from a half-drachm to a drachm of the syrup, to the ounce of oil.

In concluding, it may be well to mention that some of our apothecaries are quite successful in preparing the oil in the form of a jelly, which renders it comparatively inodorous and tasteless, and of course less revolting to delicate patients.

On the Operation for Division of the Second Branch of the Fifth Pair of Nerves. By D. S. CONANT, M.D., Professor of Surgery in the University of Vermont.

The operation for the relief of that terrible malady commonly known as Tic Douleureux, was formerly subcutaneous division of the nerve at its point of exit from the infra-orbital foramen. This operation, however, has seldom been successful in effecting a permanent cure. But, more recently, Professor J. M. Carnochan, of the New York Medical College, proposed an operation, which he has successfully performed in several instances, in the following manner : The incisions are made so as to lay bare the superior maxillary bone beneath the orbit, when, with a trephine, a disc of bone is removed, opening into the antrum Hymorianum, and through this opening the floor of the infra-orbital canal is removed. The nerve is then divided far back, and entirely removed, to its point of exit upon the face. This, as will be readily seen, is a very formidable operation, and no one would ever attempt it unless he first made himself perfectly familiar with the anatomy of the parts.

One object of this paper is, to point out what the writer considers objections to this mode of operating ; but more particularly to suggest a different mode of operative procedure, which simplifies the operation, and which is entirely without the objections, while it can not fail to be equally efficacious. The first objection to the former operation is the difficulty of performing it; while in case of failure, the deformity is as great as though the operation had been successful. I have seen the operation attempted, without being accomplished, after keeping the patient etherized from one to two hours, and this by an excellent anatomist. The second objection is, the difficulty of getting perfect union of the soft parts over the opening into the antrum, and thus preventing a fistulous canal from rendering the deformity even greater than it otherwise would be. The third objection is, the accumulation of more or less pus in the antrum, requiring that a new opening shall be made at its very bottom, to favor its discharge. These, I think, are, beyond all dispute, valid objections to the operation above described, though by no means of sufficient moment to contra-indicate its being performed in severe cases ; for the patient is relieved from pain, which, in such cases, is almost insufferable.

After reviewing these objections to the above operation, I was led to examine the parts directly implicated, more particularly, and determined upon the following operation, to accomplish the same

object. I have performed it many times upon the cadaver during the last Spring, both before my private class in the dissecting room, and before the class in the medical department of the University of Vermont, and the operation seems to commend itself to every thinking mind. It consists in making an incision through the soft parts at the lower border of the bony orbit and parallel to it, one inch and a half long, and then dissecting back upon the floor of the orbit as far as is necessary, even to the foramen rotundum if desired ; at the same time an assistant may hold up the soft parts very carefully with a small, thin retractor. Far back the nerve will be found lying in a groove ; a small hook is now passed under the nerve, and it is easily divided with a pair of fine bent scissors. From this point the thin plate of bone covering the nerve can be easily removed with the point of a strong bistoury, nearly back to the orbital border of the maxilla, when the metacarpal saw, or a chisel, may be used, unless the nerve can be withdrawn without removing the thicker portion of the bony covering. The parts are now brought together by the interrupted suture. Thus it will be seen that the nerve can be removed as perfectly as from below, and even farther back if it becomes necessary. Here, then, we have a very simple operation, which can be performed in less than half the time required for the former, with no opportunity for the accumulation of pus, and is followed by almost no deformity ; as the incision is so made that the cicatrix will be covered by the fold of integument upon the lower lid, especially when the eye is opened.

133 FOURTH AVENUE.

Amylene, a condensed history of its discovery as an anæsthetic agent, with an account of the Experiments in the hospitals of London, Paris, Strasbourg, and Brussels. Translated and abridged for the MONTHLY from the Revue de Thérapeutique.

Anæsthesia is a conquest which will endure notwithstanding the accidents which now and then occur to surgeons. But yesterday this method counted two agents, sulphuric ether, now seldom used, and chloroform, almost universally adopted. A third is now being tried.

On account of the deaths which have occurred during the use of inhalation in the hospitals of London, and which seem to have been more numerous there than elsewhere, the English physicians have eagerly sought for a substance less dangerous than chloroform, and

one of them, Dr. Snow, has arrived at a result in the discovery of the anæsthetic properties of amylene which merits being recorded.

Dr. Snow after many experiments upon animals, after having respired the vapors of amylene himself decided to employ it upon man. The 10th November, 1856, he applied it for the extraction of teeth in two young persons fourteen years of age. In these cases he was not perfectly successful, but from what he had observed he felt authorized in continuing his experiments; and so on the 4th of December he used it upon four new patients with complete success. The 13th of December it was again employed in some more severe cases; in one, operated upon by Mr. Fergusson for fungus of the testicle, and in another, operated upon by Mr. Bowman for the removal of tumors in the region of the groin, and in two cases of section of tendons. The 27th December, M. Snow used it in the case of a young girl three years and a half old. She breathed the vapors for two minutes only. She did not give the least manifestation of pain, and awoke at the very moment that the operator finished the section of the tendons of the muscles of the foot.

January 3d, Mr. Fergusson operated upon three patients subjected to the vapors of amylene. In one a rhinoplastic operation was to be completed. The inspiration continued six minutes. It was observed that the amylene produced less rigidity and less convulsions than chloroform administered a few days before.

January 7th, Mr. Henry Lee employed amylene upon a young girl whose thigh he was to amputate. The anæsthesia was maintained during the whole of the operation,—three ounces of amylene were employed. The young patient felt no pain and was very well afterwards. The same day Mr. Fergusson operated upon three patients under the anæsthetic effect of amylene. In all the anæsthesia was obtained in two or three minutes. In two the intelligence was not completely abolished.

Mr. Tyler Smith, surgeon to St. Mary's Hospital, has employed amylene with success in accouchments. Upon the approach of each pain, he caused 30, 40, 50 drops of amylene poured upon a compress folded several times, to be inhaled. These inhalations constantly and rapidly determined a state of insensibility to the pain, the uterine contractions lost nothing in force or frequency. The return of sensibility was almost instantaneous, from the moment that the pain ceased, and the compress was removed. At the time of the birth of the infant the insensibility was as complete as if chloroform had been used. The placenta was detached and expelled

with rapidity, and the uterus contracted well afterwards ; the infant was healthy and vigorous.

Mr. Tyler Smith, as well as the other surgeons already mentioned, accord to amylene, compared with chloroform, the advantage of a prompt action *probably* without danger, and what is not less important, the rapid disappearance of the insensibility as soon as the inhalations are suspended. The *only* disadvantages are, the disagreeable odor of this substance, and the necessity of employing a great quantity in order to produce sufficient anæsthetic effects.

Up to the close of January, sixty-nine operations had been performed in England under the action of amylene.

In Paris amylene was first employed in the early part of February, at Hospital St. Antoine, in the wards under the charge of M. Aran, upon patients who had come to have some teeth extracted. Three young women were subjected to the vapors of amylene. The duration of the inhalation was twenty minutes for each of them without producing complete insensibility. The instrument M. Debout invented for chloroform was used, which did not permit the vapor of amylene to pass off in sufficient quantity in a given time. This and the limited quantity of amylene used was supposed to be the cause of the failure.

At a second sitting, the apparatus of M. Charriere for chloroform was used, and a larger quantity of amylene was secured. According to Mr. Snow, the patient should respire twenty grains of amylene a minute, which produces insensibility in three minutes, and sometimes less, which was the result in this case. From 3i to 3iss of amylene was poured into Charriere's apparatus, and in less than three minutes the patient, a young female with a large decayed molar tooth, was fully asleep. Not being ready for the extraction of the tooth, the patient was allowed to awake, which she did in less than a minute,—her face was gay and laughing, she thought she had just returned from a walk. Everything prepared, about a drachm of the amylene was again poured into the apparatus, and the anæsthesia was again as prompt as before, the third minute had hardly elapsed when the mouth of the patient was opened without resistance and the tooth extracted without the patient manifesting the least sign of pain.

At the same time M. Geraudes, Surgeon to the Foundling Hospital, made some experiments. He had operated at the time of his report (March 4th) upon twenty-five patients, children from three months to ten years old. In all, with a single exception, the anæ-

thetia was produced in a very short space of time, the minimum of which was one minute, and the maximum three. We cite two observations :

A little patient about six years old was submitted to the action of amylene, in order to examine more easily its eyes. The child breathed the vapors with evident repugnance, it showed no signs of suffocation, it had not that abundant salivation which is sometimes produced by chloroform, but a sudden and very marked weeping was produced, as when vapors of ammonia are respired. This infant reacted very slightly however, against the vapors of amylene ; in a few moments, hardly a minute, it remained immovable, insensibility was obtained. The inspirations were suspended. From 3i to 3iss of amylene was employed. The infant awoke with the same rapidity, it did not complain, and willingly accepted food.

The second observation is the exception mentioned above. The patient was a girl four years old. The apparatus for inhalation fitted badly to the face, so that compresses were used. The child at first pushed away the hand of the operator, saying that it smelt badly. Soon, however, she became immovable, the weeping was as marked as in the case just cited. At the end of about two minutes she showed a rigidity and contraction of the limbs which is contrary to the assertion of Dr. Snow.

Soon, however, relaxation commenced, and in three minutes anæsthesia was obtained. Still, it was easy to see that the sleep did not resemble that produced by chloroform. It was evidently less profound ; the child opened its eyes, made a few movements, and spoke as though dreaming, yet without showing any pain while the operation was going on. The pulse and respiration was as in the normal state. Amylene being very volatile the whole of it was soon consumed, that is to say 3v. in about eight minutes, before the operation was terminated. Recourse was had to chloroform, and it was soon easy to judge how much more active and rapid in action this substance is. In a few seconds the child was completely comatose, and appeared much more profoundly asleep than before. This sleep was prolonged several minutes after the operation was terminated, while the child woke up the minute she ceased to breathe the vapors of amylene. The operation continued twelve minutes. With this exception M. Giraldes observes that all the children respired the amylene without effort, without much resistance ; in all the respiration was calm as normally ; the anæsthesia was obtained without convulsion, without muscular contractions, without rigidity, without being accom-

panied or followed by nausea or vomiting, although the amylene was given soon after eating. In all the awakening was rapid, complete; they preserved their gaiety, were not incommoded, innervated, irritated, or disagreeable during the rest of the day.

As soon as the anæsthesia is complete M. Giraldes suspends the inhalations. The explorations and the operations requiring but little time, he has not thought proper to prolong the inhalations too long. He gives no opinion upon the probable duration of anæsthesia, yet he believes that amylenic anæsthesia can be long enough for performing the great operations of surgery.

M. Giraldes adds, in terminating, that the vapors of amylene, even when they have a marked odor, are respired without effort, without producing any efforts of cough, any convulsive movements of the larynx, nor those contractions of the jaws, those cephalic congestions which are sometimes observed after the inhalation of chloroform.

Experiments upon children and in the surgical clinique of M. Rigaud in the hospitals of Strasbourg, have led to the same results as those of M. Giraldes. In some observations of M. Rigaud, as well as in those of M. Giraldes, it is shown that the exhibition of amylene without an apparatus leads to a tardiness in the result.

Two cases of amylenation have been tried in Strasbourg in the obstetrical clinique of Prof. Stoltz.

A woman twenty-six years old entered the clinique in labor. After a few hours, the neck being effaced, the orifice dilated, and the head passing the superior straight, she was submitted to the action of amylene. It was commenced at the moment when the head was engaged in the brim of the pelvis. Some amylene was poured into a bag closed with a compress and covered over exteriorly with oiled cloth. The woman gave a few cries and became stiff. After five minutes of inhalation a commencement of anæsthesia was observed. A contraction of the womb then took place, and the woman made a few complaints, but much less loud than is usual. At half-past one new application of amylene; in five minutes the woman lost consciousness, a contraction followed and excited a few moanings. At two o'clock the head was engaged during a third inhalation which also produced a beginning of loss of consciousness; the woman uttered a cry at the moment that the labor was finished.

Interrogated as to her sensations, she said she had experienced vertigo, ringings in the ears, a burning feeling in the pharynx. She recalled all that passed, but had felt no pain. The child is living and healthy. The uterine contractions were not affected by the amylene.

The second case was one of premature delivery. The amylene was given to lessen the pain of the last efforts of labor. No contraction of the uterus took place during the whole duration of amylenation; friction over that organ induced no expulsive effort; the womb hardened one moment to relax the next. The beatings of the foetal heart diminished to sixty pulsations. M. Stoltz decided to terminate the labor by the application of forceps. The woman did not feel the introduction of the instrument, nor the tractions which were necessary. During amylenation she had vertigo, and experienced a dryness of the mouth. The infant was living, but feeble, half asphyxiated, not at full term.

M. Stoltz thinks that the amylene had probably nothing to do with the slowness of the uterine contractions, nor with the asphyxia of the infant. Other facts will relieve the doubts upon that point.

M. Tourdes resumes the results of his observations and experiments upon children as follows:

Children receive amylene without any repugnance. The odor of this substance neither irritates nor fatigues the air-passages. No apparatus is necessary for putting to sleep the little patients; a sponge in a cone of oiled-cloth opened at the bottom is sufficient.

The anæsthetic action is rapid; the resistance rarely surpasses one or two minutes.

The insensibility is complete without carrying it so far as to produce muscular resolution. It is much easier not to exceed the effects you wish with amylene than with chloroform, to limit yourself to a transient and superficial anesthesia proportioned to the end to be attained.

With chloroform a greater action is produced than is desired, a profound anæsthesia is determined, a complete resolution of the limbs, whilst with amylene you are almost certain of not obtaining them unless you desire to do so by persistent inhalation.

If you desire a profound anæsthesia accompanied with muscular resolution, this result can be attained by means of amylene, by prolonging sufficiently its action. This is an important difference between this substance and chloroform. From the moment that the patient ceases to respire amylene, the effects of this agent diminish with rapidity. The absolute insolubility, and the excessive volatility of this body result in a rapid elimination and a prompt diminution of the symptoms.

With chloroform, on the contrary, of which the volatility is much less, the effects are more prolonged; sometimes they are increased after the inhalations have ceased.

The recovery is complete and rapid. From an anæsthesia of short duration, not surpassing eight or ten minutes, two or three minutes is all that is necessary for a child to regain all its faculties. A little longer time is required when the sleep has continued longer. The elimination is rapid and the traces of amylene are promptly effaced.

Finally, M. Tourdes designates as a great advantage of amylene over chloroform the absence, or at least the great infrequency, of nausea and vomitings.

M. Duroy, a pharmacist, presented to the Academy of Medicine of Paris at its sitting of March 31, a memoir upon amylene, its purification and its characteristics. At a previous sitting of the 10th of March, M. Debout had read a paper upon the innocuousness and the value of amylene considered as an anæsthetic agent. This latter paper gave rise to a commission composed of MM. Robert, Velpeau, and Malgaigne, who reported upon it at the sitting of the same body, May 12th last, through the chairman of the committee, M. Robert.

The paper of M. Debout repeats the statements already made by Mr. Snow, MM. Giraldes and Tourdes, that amylene produces anæsthesia very promptly without any painful sensation, without provoking any cough, or the necessity of spitting, as is often observed in the use of chloroform. During the whole time of amylenation the pulse continues large, full, and very frequent, the respiratory movements ample, the skin warm, the face colored; in a word, there is absence of those symptoms which show that the new agent affects easily the phenomena of organic life. Without entirely substituting amylene for chloroform, this new anæsthetic, says M. Debout, should be inscribed among the useful medicinal agents. M. Robert, in preparing his report, used amylene forty-four times upon adults, male and female, and for various operations.

In these several experiments, M. Robert says he did not witness any symptoms of irritation about the mucous membrane of the mouth and bronchial tubes, exhibiting itself by salivation and cough. Generally, the patients became insensible in from one to three minutes, rarely after six or seven. Three became refractory and necessitated the use of chloroform after ten or twelve minutes of inhalation. The anæsthesia was produced without being preceded by the symptoms of agitation which chloroform frequently produces. The face was more or less red; the eyelids remained wide open; the eyes fixed, frequently turned up under the upper eyelid; the head was thrown back; sometimes the limbs were extended, becoming stiff. The pulse became frequent; in one case it became intermittent and thready. The res-

piration was free, and I never observed that spasmodic tightening of the jaws with threatened suffocation which chloroform sometimes provokes. It never produces muscular relaxation, and the insensibility it causes would last but a short time if the amylene in the apparatus was not renewed every five or six minutes. The operation concluded, the recovery is prompt, and the patients sustain no ill effects.

This succinct review of the effects produced by amylene proves that this body possesses with ether and chloroform the power of preventing pain, but that it differs from them, especially from chloroform, by the instantaneousness of its action, which ceases the moment inhalations are suspended, and in the fact that it has no effect upon the muscular contractility.

M. Robert reports upon the perfect harmlessness of amylene, by citing the fatal case which singularly enough occurred to the discoverer of the anæsthetic property of amylene—to Mr. Snow himself. This disaster occurred April 7th, to a patient upon whom Mr. Ferguson was to operate for fistula of the anus, Mr. Snow being invited to aid in the operation, and administer the anæsthetic. The quantity used was quite small, and at the end of two minutes loss of consciousness was produced. The operation was performed, the inhalation was suspended, but recovery not taking place immediately, the pulse was examined, was absent upon the left side, and very feeble upon the right, and soon disappeared altogether. Respiration soon ceased, when artificial respiration was continued according to Marshall Hall's plan, and insufflation from mouth to mouth, but without success. The autopsy revealed no cause of sudden death, so that Dr. Snow was forced to attribute it to the action of amylene. This patient was the one hundred and forty-fourth to whom he had administered amylene.

The next question taken up by the commission is, whether it offers less danger than ether or chloroform. Various comparative experiments were undertaken by M. Debout to resolve this question, and which were repeated by M. Robert. The first writer says, if it is necessary to double the quantity of chloroform to convert the anæsthetic dose into a poisonous one, it is necessary to quadruple that of ether and quintuple that of amylene. M. Robert in his experiments on animals found that they became as it were accustomed to the use of amylene, and recovered even a part of the sensibility. The reporter agrees with M. Debout in considering it poisonous but much less active than chloroform, but he differs from him in drawing the conclusion that consequently it is much less dangerous in practice.

An important fact, he says, in the history of anæsthesia is, that it is not from the successive and progressive evolution of the phenomena of intoxication that death occurs in man, but in a sudden and unexpected manner, as though in consequence of a predisposition in the organism, the nature of which is unknown. I have shown this to be the case with chloroform, in a work published several years since, and the case of Mr. Snow's proves it to be the same with amylene. The danger lies in anæsthesia, which, according to the expression of M. Tourdes, is a *diminution of life*, and a *step taken towards death*. Notwithstanding the fact that it is not harmless, it should be retained in practice because its action is prompt, of short duration, and its effects rapidly pass away without leaving behind that general *malaise* which occasionally persists for a long time after the use of chloroform. It is preferable to the other anæsthetic substances for very short operations, when one intends only to annihilate the pain, or simply to blunt it. It is peculiarly applicable for children and patients affected with disease of the air-passages. It should be rejected for long and painful operations, and especially for those in which it is necessary to overcome the contraction of muscles as in luxations and hernias.

M. Robert's report closes by proposing a vote of thanks to M. Debout, and that his memoir should be published in the archives of the Academy.

M. Velpeau, as soon as the reading of the report was finished, arose and said :

"Though I am a member of the committee which had to judge M. Robert's work, and though I have signed the report which has just been read to you, I declare I am not a great admirer of amylene. I have several times tried it at my service at the Charité, and sincerely believe that the successor of chloroform has not yet been found, and that it is, in my opinion, still the best of all anæsthetic substances. I find fault with amylene for its detestable smell, as inconvenient for the assistants as for the patient, the little certainty and constancy of its action, the too short continuance of its effects ; and the necessity in using it to employ a special inhaler. Finally, the accident which happened to Dr. Snow, and related by M. Robert, destroys the hopes which had been founded on its innocuousness. As to chloroform, I do not say it is quite innocuous, but I believe the dangers of its use have been very much magnified. I will even willingly say it has been calumniated. For the last ten years I have used chloroform about five or six thousand times for different operations, and on patients of different age and sex ; never have I had to lament any accident. I am not the only one in this case amongst the surgeons of Paris. I do not know that any misfortune caused by chloroform has ever happened in all our large hospitals ; besides, when death occurs

during or after a surgical operation, is it just in all cases to accuse the anæsthetic agent? M. Robert has, I believe, lost a patient with an amputation of the thigh, to whom he had given chloroform. This last substance has been accused. I am not sure whether it was right. I think this anæsthetic substance is not more dangerous than amylene if it is used with proper precaution. It has the advantage over its rival of not disseminating a disagreeable odor; of being easily manageable, without the need of a special inhaler. It is quite sufficient to pour some drachms of the liquid on a sponge; its action is generally pretty quick, and always lasting; besides, the inhalation can be prolonged without inconvenience, the degree of anæsthesia shows the quantity which it is necessary to employ. The awakening which succeeds to the effects of chloroform is generally pretty quick.

"I sum up by saying that amylene can be introduced into practice, but that it does not deserve to be substituted for chloroform, which still remains the most powerful and most certain of anæsthetic agents."

M. Robert then said: The advantages of amylene consist in the rapidity and the short duration of its action; on this account it is proper in slight operations which are very painful. I would call the attention of M. Velpeau to this fact, that we use chloroform now only in serious cases, when it is necessary to continue insensibility for some time. It sometimes happens with chloroform that the insensibility is preceded with a certain agitation, which is manifested by a cough, desire to vomit; the next day there is often gastric embarrassment; and still more, the insensibility produced is of long duration. Chloroform is indispensable when it is necessary to obtain muscular relaxation; but notwithstanding its disagreeable odor, to which one becomes easily accustomed (I speak from experience), amylene has its advantages. Its greatest inconvenience is, to require a special apparatus. Amylene puts to sleep in an instant. For instance, this morning a man came to my consultation with a narrow preputial opening. I operated upon him after having subjected him to the inhalation of amylene; in less than a minute he was asleep, and as soon as the operation was performed he took his hat and left. I do not believe that amylene has any special prerogative of harmlessness, but there are cases where this agent should be preferred to chloroform in operations of short duration, for example, the incisions, opening of abscesses, &c. Without desiring to depreciate chloroform, I think that it is well to leave a little place beside it for amylene.

REVIEWS AND BIBLIOGRAPHY.

First Report of the Clinical Hospital for Diseases of Children. By A. SCHOEPP MEREL, M.D., &c., and J. WHITEHEAD, M.D., &c., Manchester, England.

The institution whose first report is now before us is but little more than a year old, having been opened in the early part of 1856. Its object is not only to be a charity to sick children, but to afford opportunity for "scientific investigation into the causes, nature, and treatment of diseases of children; to inquire into the causes and character of the principal diseases prevalent in Manchester, the progress of physical development in childhood, and the causes which hinder its due advancement; the different modes adopted among the poorer classes, of nursing, feeding, and managing their children; to impart instruction to mothers and nurses, and to spread sound principles on the subject of nursing and managing children amongst the lower ranks; and to afford to students and young practitioners opportunities of acquiring practical knowledge in this branch of medicine."

All these are commendable objects, but it is worthy of note that the instruction of students in this department of medical knowledge is not the least prominent among them. And this is right. There is no class of patients so often treated by guess work, so often victims to the inability of practitioners to diagnosticate their diseases, so liable to suffer from over doses of medicine, as young children, and particularly infants. With them it is especially necessary to have acquired a considerable amount of experience under the direction of those able to teach, before treating them. It is not an easy thing to count the pulse of a child, even when one has learned how to do it, and it is necessary to remember that the pulse is far more frequent than that of adults, before one decides that the patient has a fever. The variations of apparent temperature in the healthy infant are very great, and require to be carefully studied. Slight motions, unperceived by the unpractised eye, are auguries almost infallible either for good or for evil. Trains of symptoms differing but little, are indicative of entirely different diseases, and to recognize that slight variation, is to save the life of the child, while to fail to perceive it is to insure his death. We pause to make these remarks because we are persuaded that there is great need of such instruction this side of the Atlantic. Diseases of children, the dis-

eases of women, and obstetrics, have been in our schools usually assigned to the same professor, and the children's portion of time has ordinarily been small. Obstetrics is a branch of itself properly requiring the full number of lectures assigned to that chair, while the diseases of women now constitute a branch justly demanding about as much time. At present these two are more popular than the diseases of children, as topics of study, and when the three are assigned to the same person, this latter goes to the wall. With pleasure we note the fact that the new school at New Orleans has separated the teaching of obstetrics, and made another professorship of the diseases of women and children. There is no good reason why these two should be united, and while we hail the progressive character indicated by the first step, we hope soon to record the second—that is, the divorce of the remaining two. In this city, where a single Dispensary reports 9000 children treated in a year, there is abundant material for such instruction, which is almost entirely neglected. In part, this is due to the want of interest with students, but more to the want of opportunities for obtaining this information. Good teachers will create an interest in this department readily, and we have had some opportunity to know how grateful students are to those who have taken the trouble to direct their attention to it. But our digression has been longer than we intended, and we return to the report.

Some investigations were made as to the period at which the teeth appeared, and we consider the results sufficiently valuable to quote them.

From the preceding table it will be seen that—setting aside the children noted down in the books as being of a medium development—in the great majority of those with a *favorable* progress of development, namely, in 128 out of 161 children (79 per cent.), the first teeth appeared before the eighth month was past; in 38 of them at eight to nine months; in 12 after the ninth; in 3 after the twelfth; and in none after the fourteenth month; while in the great majority of children with an *unfavorable* development, namely in 71 out of 119 children (60 per cent.), the first teeth were cut at eight months and upwards; in 46 from nine to twelve months, and in 16 even after 12 months; and only in 48 (44 per cent.) before eight months.

From the same table it follows that the appearance of the first teeth at five, six, or even seven months had relatively the best significance for the after process of development; whilst, with a few exceptions, the appearance of the first teeth after the ninth month gave unfavorable prospects for this process.

It was further noted that of those children who were brought at

the age of from twelve to thirteen months, or a little beyond this age, so as to enable us to ascertain their general developmental condition at that time as well as the number of teeth up to twelve or thirteen months, out of 49 with signs of a *good* development, the majority, namely, 32 (63 per cent.) had at that age eight teeth or more, 4 of them had twelve and fourteen each, and with the exception of 5 individuals, all of them six or more ; on the contrary, in a considerable number of children with a *bad* condition of development at twelve months we found no teeth at all, namely, in 9 out of 45 (20 per cent.), and among those of them who at twelve months had any teeth, only 2 had 12 ; 6 had 8, and the rest, namely 32 out of 45, had less than 6, or none at all.

From these data we infer, that at the age of twelve months a child should have 8 teeth or more, and that 6 teeth are almost the minimum number compatible with good development and favorable prospects at that age.

With regard to the complete irruption of the whole series of twenty teeth, we find that the great majority of children having a *good* development have entirely accomplished the first dentition at the age of *two* years, as among 85 cases of this category only 26 had less than twenty at that age, namely eighteen or less, and only one of them as few as twelve ; whilst of 73 children with *bad* development at the age of *two* years, only 10 had all the 20 teeth, 5 of them 18, all the rest 16 and less, 8 of them even only 8, and one only 6 teeth.

We deemed it worthy attention to notice the relative frequency of what may be called *precocious dentition*, namely the irruption of the first teeth before the fifth month. We have no data on this point from other quarters. Amongst our own patients about 40 cut their first teeth at the age of two, three, or four months. This precocious dentition would appear, according to our records, to give little promise for the favorable progress of after development, inasmuch as among the 40 children of this kind 18 were afterwards badly developed ; and with regard to the progress of dentition itself, after that early appearance of the first pair of teeth there was generally a long interval of three, four, or five months, or even longer, before the next pair appeared : and in many cases the early teeth decayed after a few months.

On the contrary, the precocious accomplishment of *all* the twenty teeth was almost constantly the attribute of an excellent state of development. We have seen a few children who, at the age of sixteen or eighteen months, had all their twenty teeth ; some of whom, at nine months, were able to walk freely, and were of exceeding strong habit of body.

But again, there are some suggestive observations concerning the anterior fontanelle, and the progress of ossification of the skull. We quote them, not considering them conclusive, but hoping to draw the attention of others to the same points.

The state of the *anterior fontanelle* we found to serve as a valuable sign whereby to judge of the condition of development within a certain compass of age ; at all events, it shows the progress of Ossification of the Skull, and generally that of the whole osseous system.

It became a question as to the age at which the fontanelle has the largest dimensions ; whether it fluctuates in its measurements, during the rapid increase of the brain, in the early months of infancy ; whether an arrest, or even an increase in its measurements, did not sometimes take place at different ages in the same child ; and whether the progress, or the apparent arrest for a time, of ossification of the surrounding circle of bone be always in harmony and in proportion with the progressive ossification of the rest of the skeleton ; or if the reverse of this takes place ; *i. e.*, whether the anterior fontanelle may remain stationary, or even become enlarged in its measurements, while the growth and ossification of the other parts of the body duly progress.

On these questions—certainly not uninteresting—data are accumulating. From such as we are already in possession of, it would appear that, as a physiological rule, the anterior fontanelle possessed the largest dimensions, not at birth, but at the age of from five to seven months, when its measurement, taken from side to side—not from one angle to another—was from a half inch to two inches : the antero-posterior line frequently exceeding the transverse a little ; this rule has reference to children born at full term, and of *good* development. In some cases, however, it was found much larger than is here stated in the second year, measuring even as much as three inches ; but in such children the developmental process was in a morbid condition, and rachitis in most of them more or less pronounced.

In some children the closure of the fontanelle progressed very rapidly, in others slowly, without coincident rates of progress in the general development. In one individual, from the age of six to that of ten months, the fontanelle became constricted from two inches at the former, to three quarters of an inch at the last named age, during which period four teeth protruded.

It seems strange that some authors should have attributed so much importance to the expenditure of phosphate of lime for the formation of the teeth, as to see in this demand a frequent and sufficient cause of constitutional disorders at the corresponding period of childhood. What can the quantity of phosphate of lime contained in all the first twenty teeth amount to, in comparison with that consumed in the ossification of the skull alone—to say nothing of the rest of the skeleton—during the first two years of life, the period of dentition ?

We will now adduce such data, relative to the closure of the fontanelle, as were derived from actual observation, at the age of from five months up to about three years. It may be first stated that those children, in whom this part of the skull was still open at the age of from eighteen months to two or three years, presented an

unfavorable development to a considerable degree, with the progress of dentition much retarded, and the faculty of walking defective ; frequently also anomalies were observed in the shape and relative size of the skull and chest, and many of these patients were rachitic. In only a few cases was there any considerable disproportion in these respects, namely :—in some of them the fontanelle was open at the age of eighteen months, such patients having sixteen teeth or more, and having been able to walk freely from the eleventh, twelfth, or thirteenth month, and *vice versa* ; in a few the fontanelle was closed before the first tooth appeared.

In children under our own observation, having a *good development*, the state of the fontanelle was found as follows :

At the age of from 5 to 7 months, closed in 3, open in all the others.

"	"	8	"	"	2,	"	"
"	"	9	"	"	2,	"	"
"	"	10	"	"	2,	"	"
"	"	11	"	"	4,	"	11
"	"	12	"	"	11,	"	3
"	"	13	"	"	13,	"	3
"	"	14	"	"	13,	"	2
"	"	15	"	"	9,	"	0

15 to 18 all closed, with two exceptions.

After the 18th month it was not open in one having a *good development*.

In children of *bad development* it was as follows :

At the age of 7 months, closed 1, open in all the others.

"	"	11	"	"	1,	"	"
"	"	12	"	"	3,	"	14
"	"	13	"	"	1,	"	12
"	"	14	"	"	5,	"	11
"	"	15	"	"	4,	"	12

16 months to 3 years, 13, " 14

In a few individuals we found it open at from 3 to 4 years ; these were most unfavorably developed, or rachitic.

From these comparative figures it appears that in the great majority of children favorably developed the skull is entirely ossified at 13 months, and before ; and in the great majority of those badly developed, the anterior *fontanelle* is open at 13 months.

Another topic of interest investigated by Drs. Merei and Whitehead is, the relative increase of the dimensions of the head and of the chest of children, but we can only quote the summing up.

If we now look over the whole space of time, from the third month to the fourth year, we notice an increase in the horizontal measurement of the skull of about five inches, and during the following eight years of only about one inch ; whilst, on the contrary, the chest during the latter period augments by about four and a half inches, and seems to go on at an increasing rate, the skull growing

more and more slow each year, scarcely gaining more than an inch or two during the whole space of time, from the fourth year up to the thirteenth.

The greatest predominance of the skull over the chest, was most frequently met with between twelve months and three years. This, however, is not to be considered altogether as a physiological occurrence, but as dependent upon the great relative frequency at this period of retarded and disordered development. In fact, whenever at the age of from one to three years the skull was by more than one and a quarter inch, or at the outside one and a half inches larger than the chest, we had, with the exception of a few cases, every reason to regard such children as unfavorably developed. In decidedly nervous temperaments, however, a marked predominance of the skull is sometimes observed after the fifth or sixth year, with a good shape of the head, and otherwise a healthy constitution.

Impaired and disordered development, therefore, is very largely represented by an undue development of the brain—which is in a certain sense a consuming organ, as compared with the lungs—which contrastingly may be considered as productive organs.

Walking was found to be, by the period at which the faculty was acquired, “the most constant and the most trustworthy index of a favorable or unfavorable developmental condition”; but we do not dwell upon it—passing to a synopsis of the observations made on all these points. It may be mentioned that the number of children on whom these observations were made was 530. Of this number,

Those who enjoyed a *strong constitution, a favorable state of development*, and exhibited promising prospects for its future progress, had, in the great majority,

At the age of eight months: at least two teeth; the fontanelle not wider than one inch, the circumference of the skull not exceeding that of the chest by more than one inch.

At thirteen months: eight teeth or more; the fontanelle ossified; the skull not exceeding the chest by more than one inch and a half; and being able to walk.

At two years: having all the twenty teeth; the skull not exceeding the chest by more than one inch.

At three years: the skull in circumference nearly equal to, or even surpassing, the chest.

At four years: the chest exceeding the skull in circumference.

At eight years: the chest exceeding the skull by at least two or three inches.

The face in appearance larger than the forehead, especially so during the first three years; the shape of the skull not angular, and that of the chest well rounded, without lateral compression.

For all who treat infants, it is necessary to understand the merits of various kinds of diet, natural or artificial, and their influence upon children. It is, therefore, not surprising that this is one topic dwelt

upon in this report. We can make but one extract—a table which explains itself, and which again illustrates the fact that abundance of milk from a healthy woman is by far the best diet for an infant, till the teeth have made considerable progress.

I. Children who, from birth, or the age of two to three months, besides an abundance of breast-milk (as stated by their mothers), had received additional *food*, generally boiled bread with milk, or merely with water and sugar, or arrowroot :—Of 105, *development good in 55, medium in 29, bad in 21.*

II. Children who had the *milk of the breast alone, up to the 6th, 7th, 8th, or 9th month*, after which period they were partially weaned (about 20 per cent. of them), partially receiving for some months longer other *food* besides the breast :—Of 45, *development good in 30, medium in 9, bad in 6.*

III. Children having had the *milk of the breast alone, to 9 months or longer, some to 15, 18, or 24 months* :—Of 30, *development good in 23, medium in 4, bad in 3.*

IV. Children who had from the earliest infancy a moderate or small supply of *milk of the breast*, some for a few months only, others up to the 9th, 12th, 15th, or 18th month, or longer, with other food from birth :—Of 129, *development good in 29, medium in 34, bad in 66.*

V. Children “hand fed,” having had *no breast at all* :—Of 10, *development good in 1, medium in 3, bad in 6.*

In treating of the diseases which were observed at the hospital, several interesting topics are touched upon, though briefly. It accords with our own observation of such patients, that the reporters find the most frequent complication to be that of bronchitis with diarrhœa. There seems to be an intimate connection in infancy between the condition of the mucous membrane of the intestines and of the lungs. West has called attention to it, and we agree with him in saying, that the danger to the patient from the bronchitis is frequently overlooked. The cough is slight, and not such as to attract notice to itself, and therefore careful and oft repeated auscultation of the lungs in cases of diarrhœa, though unusual, ought to be practised if we would avoid the danger arising from this grave complication.

The following quotation from the report is of interest in connection with the position which we have taken, that cholera infantum, as we term it here, is merely a name given to a particular stage of diarrhœa, or entero-colitis.

Diarrhœa was prevalent to excess during July and August. In fact in these months, during, and especially a week or two after that remarkable height of the thermometer peculiar to the past Summer, nearly two-thirds of our patients were affected with diarrhœa, a

proof of its climatic origin and epidemical nature. At that time, in a great number of children who previously were relaxed in their bowels by unsuitable nourishment, chronic diarrhœa suddenly became aggravated by climatic influence, and in some cases was irremediable. Almost all such patients were under two years of age. Undoubtedly, diarrhœa caused by unsuitable dietetic agencies, when neglected, appears as the most generally destructive disease of young children.

It strikes us that if cases similar to those here described had occurred in this city, they would have been unhesitatingly classified as cholera infantum. It is a natural question, what difference does the name make? Often none at all, but in this case much. Cholera infantum is claimed as a disease peculiar to this country, and therefore the teachings of West, Churchill, Trousseau, Bouchut, as well as the Germans, are ignored and disregarded. This, however, would be unimportant, were it not true that the treatment recommended for cholera infantum, when it differs from that advised by Europeans for diarrhœa, almost always varies by advising the use of remedies which we are persuaded very frequently do more harm than good. For this reason we desire to call the attention of practitioners to what we believe to be the true state of the case.

Rickets occurred in twenty-eight well characterized cases, and received considerable attention from the physicians of the hospital. As yet their deductions are not sufficiently complete to be of great value, though interesting theoretically. A singular case of a different character is worthy of note.

James Spellon, 3 years and 3 months old when brought to the institution, presented unequivocal signs of pressure of the brain; he looked dull, the head hanging forward, mouth open, constant salivation. The circumference of the skull was 17 in.; chest 19 in.—great predominance of the chest; skull, relative to the size of the body, of a small circumference, but much convex. On the top of the skull, in the place of the fontanelle, and part of the sagittal suture, the bone was completely solid, and elevated so as to form a ridge, to the height of half an inch. The mother said he was a fine strong child, and in perfect health up to his 8th month, then gradually the present disorder developed itself. This child had his first teeth at 6 months, and at 14 months had all the 20: he walked at 9 months, but lost afterwards the power of his legs. Two other children of this mother had their first teeth at 6 months, all 20 as she stated at 14 to 18 months, and freely walked at 9 months. The mother appeared to be a very strong woman; she said she had such abundance of milk that she could have suckled two children at the same time; she gave the breast alone to each of her children up to the 15th or 18th month. The explanation we give in this case is,

that by a precocious solidification of the skull the growing brain was compressed : the ridge at the top of the skull originated, as we think, from this circumstance, that the over-growing brain, in all other directions compressed, finding less resistance in the situation of the fontanelle and sagittal suture, protruded there, until also this part of the skull became disproportionately over-ossified and unyielding.

This closes the extracts for which we have room, although several other topics of interest are mooted. The earnest diligence with which the physicians have pursued their investigations give promise of larger results hereafter, and we recommend their example to those who, on this side of the Atlantic, have larger facilities for investigation.

On the Nature, Treatment, and Prevention of Pulmonary Consumption, and incidentally of Scrofula, with a Demonstration of the Cause of the Disease. By HENRY M'CORMAC, M.D. London : Longmans, 1855, pp. 111, 12mo.

There is no one subject in the whole range of medical literature which has received more attention than that which forms the title of the volume before us. Yearly the press sends out new monographs, new essays, new volumes. Yearly the tomb gathers its harvest of victims cut down by the sickle of Consumption. The investigations of the pathologist have ascertained the seat of the disease, and have attributed the long train of symptoms to the presence of tubercle. The microscope and chemical analysis has revealed the nature and structure of tubercle, and yet a third of humanity are afflicted with this development of disease, and a fifth of the whole mortality arises from this cause. The labors, then, of the host of writers, and the ardent searchings of the pathologists, have done little towards the great end and aim of our profession—that of saving and prolonging life. The cause is found, but the cause is not removed. The great author of the work upon auscultation, after illuminating, by his genius, the progress of medical science, and adding vastly to the means of distinguishing thoracic disease, could not, with all his knowledge, prevent the fatal blow from reaching himself. Illustrations are numerous, but how to prevent these illustrations, how to prevent the presence of these tubercles, which bring in their train such dire symptoms, and such a sad result. Dr. M'Cormac, in the little volume of one hundred and eleven pages, has endeavored to point out the way. "Consumption," he says, in his preliminary

remarks, "with all its frightful train, is simply, and truly, and only a violation of the physical laws of our being." This is the text of the work, and in the chapters which follow, he continually recurs to it, asserting that by a proper attention to these laws, "the cause and radical cure of Consumption and scrofula, with all their concomitant ravages, are placed as absolutely as small pox itself has been placed, within human control."

This assertion would seem rather dogmatical in the face of the statistics which every writer upon the subject presents, but the arguments given to sustain this opinion merit most careful attention and serious thought. The subject is treated under the following heads: I. On the Nature of Consumption. II. Tubercle, its Constitution. III. Rational or Vital Cause of Tubercle. IV. Proximate or Chemical Cause of Tubercle. V. Remote or Predisposing Cause of Tubercle. VI. On the Treatment of Consumption. VII. On the Prevention of Tubercle.

The cause of Consumption is the presence of tubercle, "tubercle in the tissues and tubercle in the blood." The composition of tubercle is nearly the same wherever found, and consists principally of a hydrocarbon, which the author considers as a very important circumstance. The fatty matter which is found with it is also almost a pure hydrocarbon, and is itself a constituent of tubercle. The fatty liver described by Louis and others, Dr. McCormac considers as really only tuberculous, and he, with Dr. Hall, attributes hemoptysis to the fact that this fatty degeneration occurs in the blood-vessels of the lungs, which give way. The rational or vital cause of tubercle is the tuberculous diathesis, without which no person, however exposed to the various causes usually attributed as the starting points of this disease, will be afflicted by it. "Tuberculous matter, if it do not exist in the blood, is at any rate first formed and deposited from materials abnormally subsisting in the vital fluid. . . . Insufficient, imperfect performance of the respiratory function" supply these materials. "The carbon taken into the system is not discharged, or sufficiently discharged, from the blood in the lungs, and finding no adequate outlet by the liver, skin, or other possible excretories, being neither burnt off in the lungs, nor expended in the tissues, is deposited, mainly, as a hydrocarbon in the lungs and other organs, under the form of the bodies known by the designation of tubercles."

And finally we come to the remote, or predisposing causes, which are found in our disregard of hygienic rules, in our daily, our constant

“violation of the physical laws of our being.” “It is to insufficient exercise, in-door, sedentary occupations, unventilated habitations and impure air, and not to cold, as was long believed, that the tubercular diathesis is owing.”

This is the train of reasoning which is developed in the work of Dr. McCormac's, and which we have endeavored to give as concisely as possible in his own words. A removal of these causes, then, which produce this diathesis, constitutes the treatment for the cure of Consumption and the prevention of tubercle. Pure air, then, by day and by night, constantly renewed so that it may never be respired twice, is necessary for the treatment of the consumptive. Attention to those hygienic conditions which will prevent a renewal of those materials which are converted into tubercle in the lungs, so that when the tuberculous matter already deposited becomes evacuated, no new deposition may take place; or in the event of recent and slight depositions, a further accretion may be prevented. Ventilation free, perfect, of our buildings and our sleeping apartments, both by day and night, good diet and exercise, is the prophylactic. The plan of treatment is simple, and doubtless is the only safeguard against disease, let it be in whatever form it may.

The views here expressed are sustained by frequent reference to known and standard works, which shows extensive reading and much erudition upon the part of the author. The terse style, the apposite references, the clearness with which the propositions of the author are enunciated, and the logical arrangement of the work, all together render it an attractive volume.

The material contained within these hundred pages could easily have been extended to a more pretending volume; as it is, we have seldom met a book which has accumulated in its pages more of the true grain of thought, winnowed from various sources, and less of chaff, than the one before us. The author's views seem to flow naturally from the results presented, by approximating the labors of others, and it would be well if every person could read the scientific evidence here accumulated in support of the benefits resulting from pure air, free ventilation, good diet, and sufficient exercise. We cordially recommend the volume to everybody.

The Principles and Objects of the Massachusetts Medical Society. An Address delivered at the annual meeting, June 3d, 1857. By M. S. PERRY, M.D.

The *seventy-sixth* anniversary of this society, held in June, places it among the most venerable of these associations, and naturally suggested to Dr. Perry, the chosen orator of the occasion, a consideration of what it had done and of what it ought to do. Retrospectively, the speaker claims that it has raised the standard of medical education and of morality; that it has done much to advance medical science and much for the protection of the public by the prevention of disease. All these claims will be cordially allowed by those who are informed upon them. When the speaker comes to the question of the present duty of the society, he maintains that it ought to raise the standard of medical education higher, and should send among the enlightened portion of the people correct notions in regard to what is true and false in the practice of medicine. We cannot follow the speaker in the interesting discussion of these points, and are compelled to limit ourself to a single quotation. This we make at length, in justice to the society, for it has been greatly blamed, and is looked upon with suspicion on account of its encouragement of charlatans. The extract shows the cause of this connection, and how its honorable members desire that it should be severed. Every consideration demands its speedy accomplishment.

It can appoint at its annual meeting an independent committee, selected from among its most intelligent members, who shall quarterly or semi-annually, at such places as they may select, examine every physician, whether a graduate or not, who applies for admission into the Society. If the candidate is found deficient in any one of the required studies, he should be rejected until he can pass such examination.

This committee would, of course, take the place of the present censors; and I might, if I had time, give you strong reasons for this change: but they will readily suggest themselves to the mind of any one who will give the subject a moment's reflection.

It will at once be asked how these changes can be made, when, according to the present act of incorporation, any man who has a degree of M.D. from the Harvard or Berksire Medical Schools can become a Fellow of the Society, without passing through the formalities of an examination. It cannot be done without an alteration of the charter, and an entire separation from these schools. This must be done, or you cannot move one step. There never was a greater mistake made by this Society (and I say this with all deference to those who brought about this coalition) than that of admitting graduates from these schools into their fellowship, without

an examination. The moment this privilege was granted, a blow was levelled at its independence, from which it can never recover until it has retraced its steps. It opened the door for men to enter who could practice upon the principles of any new doctrine ; could slander the members of the Society as much as they pleased, and set at defiance its power. Let us examine the operation of this alliance for one moment. Let us take, for example, the requirements of Harvard Medical College, and their practice of giving degrees, and compare them with the requirements of this Society. And, in doing this, I am not disposed to find any fault with the College ; for I think its requirements are as great, and the examinations as rigid, as at any school in the United States ; and I think, if sustained by the opinion of the profession at large, the professors would gladly raise the standard of their requirements. But what says Harvard Medical College ? If the candidate for an examination has not received a university education, he shall satisfy the Faculty of Medicine in respect to his knowledge of the Latin language and experimental philosophy. What says this Society ? The candidate for fellowship to this Society "shall have such acquaintance with the Latin language as is necessary for a good medical and surgical education, and shall have acquired the principles of *geometry* and experimental philosophy." And then, in a note explanatory of what it means, it says, "It is understood that he be able to translate the Select Orations of Cicero, the *Æneid* of Virgil, or the medical writings of Celsus, and the formulæ of the Pharmacopœia of the United States ; and that he have a knowledge of Euclid, Pierce's or Loomis's Elements of Geometry ; also of Golding Bird's or Olmsted's Natural Philosophy, or the Cambridge Course of Physics." Harvard Medical College says it cannot go behind its charter, and must examine any man who presents himself with the proper certificates ; and I understand, that in the examination of candidates, if they pass in five or six of the required studies, and fail in one or two, they are allowed to have their degrees. What says this Society ? "The censors should satisfy themselves, by examining applicants, that they have pursued a course of study *fully* equal to that prescribed by this Society."

A man presents himself to the faculty of Harvard Medical College with his certificates, and passes an examination. He tells them that he intends to practice homœopathy or Thomsonianism, or any *ism* of the day ; and they cannot refuse him a degree ; and if he applies to this Society for membership, he must be admitted. What says this Society ? In a recent act, it sustained the censors of the Suffolk District, when they rejected a man *because* he acknowledged that he was opposed to the principles of this Society, but sought admission into its ranks on the ground that it would secure him the confidence of the community.

This Society may send out as many reports as it pleases, and advise its members to hold no communion with pretenders. The mischief is done when they are admitted into the Society. Expel

them, and you raise the cry of persecution. Call them irregular practitioners, and they show you their diplomas. This Society is alone responsible for its connection with the medical schools. When it was proposed to have graduates from the medical schools enter the Society without an examination, the Society had the power to accept or reject the proposal. If you will examine the reports and records of the Society, you will find that the alliance was not formed without decided opposition. The Society is alone responsible, if it allows this state of things to continue. But, if the schools and this Society hold the same relationship hereafter that they do at present, these conflicting elements must, in some way, be harmonized. The only way to protect this Society is to divorce it from the schools, to raise its standard of requirements, to examine every candidate in all branches of medical science, and to infuse into its ranks the spirit of united and determined action. I believe this course would be better for the schools. It would stimulate them to greater exertion, and inspire them with a spirit of pride and emulation.

PROCEEDINGS OF SOCIETIES.

ACADEMY OF MEDICINE.

The regular monthly meeting of the *New York Academy of Medicine* was held Wednesday evening, July 1. Dr. Mott presiding.

After the reading and acceptance of the minutes of the last meeting, Dr. Reese read—for a Committee appointed by the Section on Theory and Practice, to whom was referred the paper on the “National Hotel Sickness,” by Dr. Wynne (which appeared in the *MONTHLY* for *June*)—the following report on that paper :

The section of the New York Academy of Medicine on Theory and Practice and Medical Pathology, respectfully report :

That the paper by Dr. Wynne, referred to them, in relation to the late endemic at the National Hotel in Washington, together with accompanying documents on the same topic, have occupied two several meetings of the section.

At the first meeting the author of the paper, being present by invitation, was heard ; and the testimony of members of the section who had professionally attended any of the sufferers by the endemic, was received touching the symptoms and treatment. Letters were read from Drs. Stone, Hall, and others, and a free interchange of opinion was had, without reaching any very definite conclusions, in the absence of the full history of all the facts, and pathological information as to the fatal cases which are reported ; in both of which respects we are to a great extent without precise and adequate knowledge. Hence the section adjourned and reas-

sembled for still further consultation, after time should be allowed for reflection, and for any further developments. The subject was then discussed in all its bearings, and in view of all the light which has been cast upon it from every source.

Remarks were made, first upon the topography of the locality and its surroundings, where this obscure malady exhibited itself, viz : the National Hotel, within which it first appeared, and to which every known case is ascribed. Its sewers and their traps—its cess-pools, sinks, water-closets, and their several conduits for the removal of the offal, &c., from the premises, were all inquired into as set forth in the documents before us, and as derived from the personal knowledge of the medical men present. The questions submitted being how far the violation of sanitary laws in these structures, and their condition during the cold weather of the last Winter, would authorize the belief that an effluvia of noxious gases from these sources might impair the health of the inmates, and generate a poisonous atmosphere, which would be adequate to the generation of disease.

So far as the opinion of the section was expressed, the affirmative of this latter theory appeared to be generally assented to ; which is believed to correspond with the views taken by the Washington Board of Health, and most of the physicians on the spot, who have the best opportunities for forming a correct judgment.

2. The second inquiry was whether the symptomatology of the disease, as described by all the medical observers, and which seems to have been singularly uniform, presents any peculiarity requiring the presence of any other or more potent morbid cause than is to be found in the foul air, which, as it is proved, pervaded, in greater or less degree, the entire building, and which in some of its apartments was intolerably offensive, and beyond relief by the ordinary and available means of ventilation, especially in the sleeping rooms of the inmates.

The prevailing judgment of the section seemed to regard such foul air and noxious effluvia to be fully adequate to the production of all the symptoms described, modified as the disease was by febrile indications and periodical remissions, exacerbations and relapses, in many cases ; pointing to the miasmatic climate of the locality as contributing to its aggravation.

3. The next topic of consideration was the probability or possibility of the endemic having arisen from any animal, vegetable, or mineral poison, as has been suggested, having been mingled with any of the articles of food or drink used by the guests at the hotel, either by accident or design.

The section, after full discussion, seemed to concur in the opinion that no known poisonous article from either kingdom of nature would have produced all the group of symptoms which so uniformly characterized the cases, and certainly not without involving the stomach itself in more serious mischief than is alleged to have been present in any case.

These several topics having been thus disposed of, a full expression of opinion on the whole subject was called out from the chairman, and from each member of the section; which seemed to result in entire unanimity of views. Whereupon the undersigned were appointed by the section to prepare a minute of these general opinions, to be submitted to the Academy at its next meeting; not as assuming to decide upon those branches of the inquiry which relate to the chemical, microscopical, and pathological investigations yet to be made, and which may possibly throw new light on this dark subject, but opinions based on all the information at present available, and which may require essential modification from future developments.

With this qualification, we unite in the belief that the source of the epidemic in the National Hotel at Washington, was solely a poisonous atmosphere, probably engendered in the receptacles for offal and other filth, under the building, or adjacent thereto, in the sewers, &c., these having been obstructed by ice, or otherwise by neglect, until the accumulation of foul air and noxious gases involved the atmosphere in and around the building, and, as in other cases of malarial exhalation, severely and dangerously affecting its inmates.

This foul air we regard as the *one common cause*, which exposed all who inhaled it to a predisposition to the malady, which itself was modified in individual cases by previous health, and developed with greater or less promptness and severity by excesses, or indiscretions in diet, drinks, exposure, &c., either of which might have been harmlessly indulged in but for the universal predisposition induced by the atmospheric poison. And, in like manner, even the predisposition, as in other cases, was not followed by an attack in all such, because no exciting cause was applied of sufficient potency. And again, many who received this predisposition had no symptom of the malady until days or weeks after they had left the atmosphere of Washington and returned to their homes. Then, under some exciting cause, the disease was developed, their predisposition having remained latent meanwhile. These cases have been sufficiently numerous all over the country, and so well characterized as to be identified at Washington by unequivocal pathognomic symptoms.

Finally, this view of the subject appears to us to explain many of the circumstances reported by authority as marking the endemic, and which are wholly inconsistent with any theory of mineral poison. For example, while some persons sickened after a single meal, or a single drink taken at the bar, there were many others who ate, drank, and slept exclusively in the hotel, throughout the whole endemic, without a single symptom. There were, besides, numbers who suffered an attack who neither ate nor drank in the house, but only visited it, or mayhap slept there. Yet it is remarkable that no case of the disease is alleged by anybody in which the patient had not been in the hotel and inhaled its air. Hence this common cause, the poisoned atmosphere, having been present in all cases, while none of the other causes are known to have been present in many,

and all are known to be absent in others—these facts render our conclusion rational and philosophical. And as it is “illogical to seek for more causes for any effect than are necessary for its production,” we are not willing to admit any other poison than that which the foul air of the hotel furnished as the common cause of all the endemic visitation which has been suffered by our Washington neighbors ; and we commend to the civic authorities there and every where the sanitary lesson taught by this pestilential endemic.

Let none of them henceforth ignore the facts here exemplified, that at whatever season of the year filth of any kind is allowed to accumulate, to an extent sufficient to pollute the atmosphere of any inhabited house, the health and lives are endangered, not merely of its inmates, but of its neighborhood, by the privation of pure air for lack of ventilation, no less than by the noxious and poisonous quality of the infected atmosphere itself.

The views thus briefly set forth, are based on the facts of the case as submitted to the section, and might be sustained amply by references and authorities employed during the discussion, but their introduction here has been judged unnecessary, in this paper, which is intended only as an embodiment of the discussions and opinions of the section, and submitted as such to the action of the Academy.

All of which is respectfully submitted,

D. M. REESE,	} Committee.
SAM. A. PURDY,	
JOSEPH M. SMITH,	
HENRY S. DOWNS,	

When the reading of the report was finished, the President, *Dr. Mott*, remarked that he had had a Spanish gentleman under his care who was a victim to the National Hotel disease, that the symptoms were such as he had never before witnessed as those arising from and attributed to malaria, and that he could not see in the rise and progress of this disease, the accidents occasioned by mephitic air and bad ventilation.

Dr. Douglas related the symptoms and treatment of a case which had fallen under his care, and the marked symptoms of which closely resembled those given by *Dr. Mott*, namely : a tearful state of the eyes, redness of the lids, fullness of lower eyelid, a bloated state of the face, coryza, sore throat, salivation, profuse and recurrent diarrhoea, &c., which were similar to those produced by small doses of arsenic. Failing to relieve these symptoms by the use of opiates and astringent medicines, he had recourse to the hydrated peroxide of iron, which immediately had the effect to check the nasal flux and the diarrhoea.

Dr. Watson stated that he did not think these symptoms were such as either arsenic or corrosive sublimate would produce. The

effects of these mineral poisons in large doses, he said, were too well known and too marked to be spoken of, and in small and frequently repeated doses he was not sure that the symptoms already mentioned were peculiar to them, that they were present as the result of infectious air, that he could not see in them anything which specially pointed out the action of these poisons. Corrosive sublimate, too, would manifest itself in a metallic taste.

Dr. Horace Green said he had been informed that day by Dr. Lindsay, Jr., of Washington, that ulceration of the stomach and bowels had been found in the only case of death from this cause in Washington city, in which a post mortem examination was held.

Dr. Reese replied that he had been informed by letter from Dr. Stone, of Washington, that no lesions of the stomach were found in this case, but a chronic disease of the pylorus.

Dr. Griscom was of the opinion that lesions of the stomach and bowels even if found, would not be evidence of mineral poisoning. Such appearances were frequently observed resulting from malarious diseases, as one might be convinced by witnessing the autopsies at the New York Hospital.

Dr. J. R. Wood hoped the Academy would be cautious in expressing an opinion upon this subject. New facts and new views were being elicited by the committees which were investigating this question in Washington, and he trusted the Academy would be chary in adopting any opinion unless sustained by thorough investigations based upon the careful analysis of facts sustained by chemical, microscopical, and pathological investigations.

Dr. Griscom said that Prof. Reid—than whom there was no one living better able to give an opinion of the effects produced by malaria and bad ventilation—had remarked the bad state of the National Hotel, the offensive effluvia which greeted him in its corridors, and had predicted some serious illness to its inmates, which would make sad and fatal havoc among them. He was, therefore, not at all astonished when he heard of the outbreak of this endemic. Prof. Reid had remarked that it was a libel upon arsenic to attribute it to that mineral.

Dr. J. M. Smith, who was Chairman of the Section whose report had just been read, defended the conclusions of the report, and went into an exposition of the plan which was adopted to arrive at the conclusions set forth in the report. He traced minutely the symptoms of the disease, and then drew a parallel with those produced by arsenic and corrosive sublimate. They did not coincide,

and were accordingly excluded as the sources of the endemic. A vegetable poison was suggested, but none was found whose symptoms would favor its being considered as the cause of this disease. As some cases were known to have occurred in individuals who had neither eaten or drank in the hotel, the cause must have been in the air of the house, and it was consequently attributed to this cause by the unanimous action of the Section.

Dr. Holcomb related a case of a gentleman afflicted with this disease, whom he had recently seen in Chicago, presenting the full, bloated appearance of the face, and otherwise resembling the case mentioned by *Dr. Mott*.

The report of the Committee was then accepted, and the subject was again referred to them to report at any period that might suit their convenience, upon any additional facts which might be presented to them.

The Secretary then read a communication from *Dr. Reed*, of New Jersey, "On the radical cure of hernia." This paper narrated several cases which had been cured by exciting inflammation in the inguinal canal by means of a seton passed along its course through the use of a needle invented by the writer. This paper was referred to the Section on Surgery.

The discussion on Puerperal Fever, set down for this evening, was then, by action of the Academy, postponed to an extra meeting to be called for that purpose on the third Wednesday in September.

Dr. E. H. Parker then read a paper "On the preservation of vaccine virus, both in the fluid and solid state," which will be found in the present number of the MONTHLY. It was referred to the Section on Theory and Practice.

A short paper was then read by *Dr. Nathan Read*, of Illinois, upon the Milk Sickness of the Mississippi valley. He called the attention of the members of the Academy to the fact that cattle were brought into this market afflicted with this disease, that it was communicable to those who ate the meat of these animals, that cooking did not eliminate the poison, and that the disease frequently did not exhibit itself for some time after there had been an exposure to the causes. The facility with which these animals were now brought to market by railroads, made it important that the people of New York should be acquainted with these facts and take measures against the use of the meat of animals thus affected. The Academy passed a vote of thanks to the author. The Academy then adjourned.

SELECTIONS.

Soft Cataract,—Certain Complications Disqualifying it for Operation, or Rendering a Permanent Result Doubtful.

The following particulars were gathered from clinical remarks made by Mr. Haynes Walton on some cases of soft cataract under treatment at the hospital, and on some which had been operated on.

The first topic dwelt on was the frequency of general unhealthiness of the eye-ball in association with the development of cataract in early life, not of congenital origin, and the importance of discrimination in such cases. The remarks were directed to instances, in which there were not those external evidences of disorganization that are readily recognizable by any one possessing the most superficial knowledge of eye diseases ; for instance, more or less adhesion of the iris to the capsule of the lens, with discoloration of this curtain of the eye ; discoloration of the sclerotica with undue vascularity ; shrinking of the globe of the eye, &c. But they were intended merely to apply to less perceptible conditions, which would be appreciated by those only who are well advanced in the science of ophthalmology, hence his selection of them for clinical teaching.

From the state on appearance or the cataract itself, nothing could, as a rule, be gathered, as the different aspects of degeneration of the lens, and of opacity of the capsule, may be seen under any conditions ; but the criteria are these :

The State of the Chambers of the Eye.—The iris may be pushed forwards by changes in the cataract itself, due, in all probability, to the swelling of the diseased lens from the imbibition of moisture. When there is a very marked degree of this change of parts, and the iris bulges, so as to destroy the space of the anterior chamber as well as the posterior, and especially if it touches the cornea, there is most likely unnatural vascularity in the deep-seated textures of the eye-ball. This is rendered more sure if there exist unusual development of the veins on the front of the eye-ball. The movements of the iris are always interfered with by such pressure, and contraction and dilatation of the pupil, as an index to the health of the eye, is therefore lost.

The State of Vision.—Mr. Walton endeavored to give some general idea, by the examination of patients, of the amount of sight which may be expected in certain stages of the opacity of cataract, as a knowledge of this is a key to the state of the interior of the eye, whether healthy or not. This, as a test, is more applicable in the earlier stage of the disease, and may be the only one available ; but it should be conclusive. A feeble lad, with cataract in one eye, was examined. The disease had been observed for a year, and had appeared without any known cause. Only one eye was affected. The iris was palpably pressed forwards, and the anterior chamber much encroached on ; otherwise the eye did not seem abnormal, but the retina was too feeble. The opacity of the lens was but slight ; yet,

under the most favorable circumstances of position and light, no definite idea could be formed of any object that was submitted to his examination. In parallel cases, with the cataract more advanced, when of course it is not so easy to determine whether the interior of the eye is diseased, the existence of flashes, of numbers of muscæ volitantes of different forms, sizes, and in different plumes, will materially assist in the diagnosis. Mr. Walton proceeded to speak of the propriety of surgical interference in these questionable cases, under the idea of giving a patient "every chance." The most hopeless eyes, those quite disorganized, were often improperly operated on. With a reasonable hope a surgeon should attempt to effect the restoration of sight; he would be open to blame if he neglected any opportunity; at the same time he would be acting improperly to operate when no benefit could possibly ensue. He also mentioned that there could not be recovery of certain degrees of vision, as afflicted persons were wont to hope, according to the stages of their disease. To touch an eye-ball generally diseased is, nine times in ten, to advance the disorganization. Besides that, the effect of an operation on an eye, more or less unhealthy in its internal parts, must be regarded in another light,—that of ultimate result, as the restoration of sight may be but temporary.

The following was one of the cases given in illustration:—The subject was a male about eighteen years old. Both eyes were slightly shrunken; the pupils were closed, and all traces of the color of the irides, as also of their structure, were lost. He had been brought to the hospital a few years ago with cataracts, that formed with unusual rapidity. The only proof besides such quickness of development of any complication, was a small adhesion or two of each pupillary margin to the capsule of the lens. As there were no evidences of active inflammation, nor of impairment of the power of the retina, operations were advised, and the parent who used to accompany him was duly told that there was an amount of uncertainty surrounding the issue, both temporarily and prospectively. Mr. Walton operated, and the absorption of the opaque lenses progressed favorably, and in due time he was enabled to take to his former occupation. But that was of short duration. Whether from a continuation of the disease that originally invaded the eyes, or the development of new action in a part that had been enfeebled, it is impossible in this particular instance to say, but the sight began to fail, and proofs of morbid changes in the tissues of the eyes were soon apparent.—*The Medical Circular.*

Treatment of Rachitis. By M. TROUSSEAU.

Before we proceed to recount the resources which, in the treatment of rachitis and osteomalacia, we have in the materia medica, let us consider what hygienic conditions have most influence in retarding the development of these affections.

Hygienic Means.—To interdict every habitation that is either damp

or not sufficiently exposed to the sun, or where the air and ventilation are bad ; to recommend removal to the country, or, rather, to the sea-side ; to forbid any but the most moderate exercise, and even, in some cases, to enjoin absolute rest, so as to prevent the bones from heaping together, the incurvations from being augmented, or the number of fractures increased.

In very young children the kind of food is a consideration of the utmost importance. We have seen, when speaking of the etiology, that rachitis shows itself most frequently in children that have been weaned soon after birth ; and we have also seen that, in order to produce softening of the bones in certain animals, it is only necessary that they should be fed with food both bad in quality and unsuited to their age. Meats of every kind should then be proscribed, as well as rich soups, to both which parents and physicians sometimes have recourse, in the persuasion that such substantial nourishment is the only means that can be opposed to the weakness and listless inactivity of the infant. A rigid milk diet is necessary ; without this, therapeutic means can be attended with only partial success. But these precautions must be especially insisted on in cases where dentition is tedious and late.

In the adult, this part of hygiene is of secondary importance ; if, however, it be recollected that osteomalacia has, in several instances, shown itself in individuals subjected for a length of time to privations, and that another affection, analagous if not identical—*senile atrophy* of the bones—occurs, for the most part, in persons who have used only insufficiently nutritious food ; an important item in the treatment must be food, both wholesome and abundant.

Therapeutic Means.—The remedies that have been made use of since rachitis has been studied with some care—that is, since the beginning of the seventeenth century—are very numerous, and have been selected chiefly from such as were usually prescribed in other manifestations of the primary causes to which rachitis has been referred. Hence the treatment prescribed has consisted of mercurial, sudorific, and antiscorbutic medicines ; and alkalis, too, have been given, with the intention of obviating the excess of acidity said to exist in the humors of rachitic children. Maddar, which has no other property in diseases of the osseous system than that of communicating a red color to the bones, was also given, and with as little reason. Glisson himself advised blood-letting, and such external applications as fomentations, blisters, cauteries, moxas, &c. Bitters came next to be used, and their employment had greater success, until superseded by another therapeutic means, highly extolled of late years by my illustrious master, connected with which are the following circumstances : M. Bretonneau, in 1829, had under his care a young rachitic Hollander, sent to him into Touraine, whose brothers had also been rachitic in their youth, but had been cured with cod-liver oil. M. Bretonneau, yielding to the importunity of the father, decided on treating his little patient with cod-liver oil, and in two months the cure was accomplished. The physician of Tours, who,

as yet, was but half convinced of the efficacy of the remedy, prescribed it for other children, and with complete success. Moreover, cod-liver oil, train-oil, and seal-oil, have, for a length of time, been in use along the coasts of the Baltic and North Seas, for the treatment of scrofula and rachitis, as well as rheumatism. But this treatment made its way but slowly in France, where the second of these diseases is rightly regarded as quite different from the first. And this circumstance plainly shows us these two things—that we should never be guided exclusively by theory, and that the adage, “*Naturam morborum ostendunt curationes*,” is not always correct.

The use of the cod-liver oil in the treatment of rachitis has now become general; but it is necessary that I should briefly point out to you the rules to be observed in prescribing this precious therapeutic agent. The doses, as well as the manner of using, it vary with the ages of the patients. Children from twelve to eighteen months, if weaned, must be again applied to the breast, or confined to a milk diet; every other kind of food being too nutritious, must be interdicted. These precautions are all but indispensable to success. The patient should at the same time, take daily from ten to fifteen grammes of the oil, either in emulsion, or mixed with syrup of tolu, or with coffee, or, better still, with syrup of orange peel. These mixtures are not, however, indispensable, for we have seen in our wards at the Necker hospital, children who, after a few days, not only took this remedy in its natural state and without admixture, but even with a sort of avidity.

Under this treatment, so simple, the acute pains which these children experience subside, in ordinary cases in less than a week, and the bones in a short time recover some degree of consistence. Should some degree of diarrhoea, as usually happens, occur, sub-nitrate of bismuth, or prepared chalk may be given, and a few grains of carbonate of soda may be added to the milk used for food. Should these means prove insufficient, the dose of the oil should be diminished, or its use should be discontinued for a day or two, when it should be again resumed. The diarrhoea is in this way easily checked, and you are not obliged to discontinue altogether a remedy which is quite unique in its effects.

In children from two to four years, a milk diet should still be insisted on, but less rigidly. With this may be conjoined the use of spoon-meats, eggs, and leguminous vegetables. The dose of the oil may be increased from fifteen to thirty grammes, as the digestive tube will bear. Should the patient be very weak, bitter tonics may be given at the same time, such as cinchona and gentian. Should the child be affected with rachitis in a severe degree, the recumbent posture should be observed as much as possible, and he should not be allowed to attempt walking until no pain is experienced in a standing position, and even then the exercise must be very gradual and very moderate, so that the weight of the body occasion no fracture or new incurvation, or prevent the disappearance of the old lesions.

Children from four to five years should have more substantial food,

care being taken to avoid such as is indigestible. The other indications remain the same. The oil should be increased from thirty to sixty grammes daily in one or two doses.

Adult patients should neglect neither a residence in the country nor insulation, nor sea-water baths, which in several instances have been found of great service. Should the disease be undergoing a cure and the patient can walk without too much difficulty, exercise, if very moderate, will have a good effect ; but should it not be so, the recumbent posture must be observed, and every care taken to prevent such shocks as might occasion fractures and consequent deformities, for which purpose, as well as for preserving the trunk and limbs in their normal direction, numerous cushions of various sizes, and splints loosely attached, may be necessary. Should there be such complications as spasms or permanent contraction of muscles, narcotics must be had recourse to, but as such symptoms are epiphenomenal, your chief efforts must be against the disease itself. We have just seen the result of M. Bretonneau's first trial of cod-liver oil to which he at first accorded but a questionable degree of utility, but which so rapidly became in his hands, as well as those of Guersant and Blacke, and my own also, so precious a specific.

Cod-liver oil is not the only oil that may be used, for the fish oil of commerce, train oil, seal oil, and that of herrings and sardines, have the same property ; and, generally, the more rancid and brown the oil, the greater its activity. If the action of different oils be compared it will be seen that vegetable oils are assimilated with difficulty, while animal oils may be given for a month without interruption—a differential character which it is important to know.

But not only may cod-liver oil and the fish oil of commerce be given, but also the animal oils—bacon and butter. Two hundred years ago scrofulous subjects in Scotland, and rachitic children were treated with fried bacon, the liquid fat of which they were also made to drink. Butter is an excellent article of food for rachitic children, tartines of which may be prescribed alternately with tartines of goose-fat or fried bacon. The repugnance of patients for such remedies should be combatted by every possible means, and should their use be discontinued for a while, so as to give the digestive tube some repose, yet must it be again in a short time resumed. Without this indispensable precaution, the oil would no longer be assimilated, and you would thus cause formidable indigestion.

Under the influence of cod-liver oil the rachitic pains in children soon become mitigated and subside, and the peculiar action going on in the bones is put a stop to ; the little patients can recover their strength and plumpness, and the incurvations become modified by a mechanism very difficult to describe, and which I do not comprehend ; but the body does not fail, ere long, to recover positively a certain degree of its natural rectitude.

We shall say nothing of the various kinds of orthopædic apparatus in use from time immemorial, and to which various practitioners have been indebted for numerous examples of success. In every case

such means ought not to be used without much discernment. A cheap contrivance employed in rachitic fractures, and which may be useful, too, in restoring the shape of the bent bones, when the incurvation is not of very long standing, is the dextrine apparatus of Blandin, who used it frequently in the treatment of club-foot, and who recommends its application for those incurvations that accompany softening of the bones of the extremities.

Not only are bandages not indispensable in very young subjects, but they are more hurtful than useful. In such young children the incurvations disappear entirely without local treatment. The case is not the same, however, when they are complicated with fractures; for, though the periosteum retain the fragments in contact, yet if the fractures are left to themselves, the deformities they occasion persist, and the bones consolidate in a vicious position, which they retain through life. Nor would any one have recourse to such bandages in the acute stage of softening, since their use would now be as painful as their success would be doubtful, when the bones have acquired that ivory-like solidity that succeeds.

Such are the hygienic, pharmaceutic, and mechanic means that may be had recourse to in the treatment of softening of the bones. In their use regard must be had to the age of the subject, as well as to the form and stage of the disease. But the most important part of the treatment consists in hygienic conditions, and the use of fish oil, which, in this disease, has really a specific virtue.

You may have observed that, in the course of these lectures, I have used indiscriminately the expressions fish oil and cod-liver oil, and I have done so because their action is the same. The cod-liver oil in actual use is specially prepared for the purposes of medicine, and is less disagreeable to take; but the efficacy of fish oil is by no means doubtful, and its greater cheapness ought to give it a preference with the poorer classes, among whom softening of the bones is seen to exert its greatest intensity.—*Medical Circular*.

The Insane Colony of Gheel. By JOHN WEBSTER.

“Accompanied by a head attendant, and the inspecting physician—Dr. Bulkins, who most kindly showed me everything worth noticing—I visited numerous houses in the town, and a great many cottages scattered over the adjoining country; in which, often one, although most frequently two, and occasionally three insane persons resided. That is the general system followed, with but very few exceptions; seeing not more than five instances exist throughout the entire colony, where beyond four patients are placed with the same family, but only then for special reasons, and after an express authorization from the committee of inspection is obtained. Being occupied during two consecutive days in visiting various abodes, ample opportunities were thus afforded for seeing whatever was either interesting, important, or peculiar; and, consequently, thus form some general opinion respecting the establishment. With reference to patients residing in rural dwellings, it should first be remarked that, amongst

the seventeen hamlets of this commune—some being even like villages—in three no lunatics are received ; and, however anxiously most householders often desire to obtain insane boarders, throughout all the neighboring communes an opposite feeling is very prevalent.

“Speaking generally, the sexes are usually lodged in separate houses. However, in regard to very aged persons, whose disease was chronic, and were of quiet, inoffensive dispositions, a man occasionally lived in the same family where an insane old woman also resided. All suicidal, dangerous, homicidal, or mischievous insane patients are rarely if ever received as inmates at Gheel ; while, on the other hand, should any resident subsequently come under these categories, they are forthwith sent home, or to an asylum elsewhere. Again, the authorities generally place boisterous, idle, or agitated maniacs in remotely situated and solitary cottages or farm-houses, which occupy the open heaths ; where, such lunatics, having no neighbors, cannot disturb any person, or cause much annoyance. These, although excited or very noisy, may there walk about without danger to others or themselves ; being thus placed beyond the observation of bystanders, not near similarly afflicted fellow creatures.

“When perambulating the various hamlets visited—often through pretty but devious pathways—we frequently noticed lunatics occupied as agricultural laborers in adjoining fields ; whilst some were quietly walking to or from neighboring cottages, quite as tranquilly as ourselves. Being all well acquainted with the inspecting physician, these parties saluted him respectfully, and often conversed with us familiarly ; in short, they behaved like ordinary peasants, or any rational person. We saw others sitting at the cottage doors, and some looking out of windows ; while several were amusing themselves with children of the family, in adjoining gardens or enclosures. In one of the public roads we met a maniac, who lived in a cottage at some distance, then carrying an infant in his arms like any nurse. He seemed to take great care of his innocent charge ; and the physician remarked that such an occupation constituted this lunatic’s chief enjoyment. Afterwards, we encountered another insane resident—a young man—amusing himself with three children, romping with them, and at the same time taking care they did no harm. In a solitary lane, we next came up with a patient, who was being conducted homewards to dinner by the juvenile daughter of his host, after laboring in an adjacent field. In various other instances, we observed insane persons sauntering about ; and some also going towards or returning from neighboring farmhouses. In truth, had it not been from the vacant-looking countenances noticed in most cases, and occasionally that their legs were loosely tied together by leathern thongs—so as to prevent the wearers from running fast, or going to any distance—I should scarcely have recognized many of the parties then enjoying themselves, while breathing the pure and open air of heaven, as real lunatics residing in the Gheelois commune.”—*The Medical Circular*.

Dr. Hayes on Arctic Diseases.

He said that the influences of climate upon the animal economy were marked, and the diseases peculiar. He had never seen a case of Tubercular disease among the natives, and this is doubtless due to the great consumption of fatty food. If he had a consumptive patient he would send him to Greenland, if possible, and put him upon train oil diet, with a dog sledge and a bear hunt for exercise. He had heard of but one case of hæmorrhage from the lungs, through his friend, Dr. Kane, Jr.

The crew of the *Advance* suffered much from scurvy, but the Esquimaux are rarely afflicted with it. The prevalence of this disease he attributed to the combined influences of salt food, darkness, and cold. The darkness seemed to have a bleaching effect, and tended to diminish the coloring matter of the blood. The brick-dusty appearance of the blood, mentioned by Dr. Kane in his narrative, expressed it very clearly. In the treatment of this fearful disease he derived much benefit from the use of raw potato, which he dressed for his patients as a salad; but its effect was lost when the severe cold weather of mid winter set in, overpowering the vital forces. Strong carbonaceous food was then requisite, and potato was good only as an adjunct. His specific was then walrus meat, or still better, the liver of the same animal. But the term *specific* he would only use here as applicable to the meat in its raw state. It seemed then to have a power which was lost by the process of cooking. Like cooked fruits and vegetables, it lost its freshness. He gave it at first to his patients dressed like the potato, as a salad. They afterwards became partial to it, and overcoming their repugnance to raw flesh and hard frozen, they really often preferred it thus.

It is in this condition the natives mostly take their food, and from them the Doctor received the idea, to which he believed the ship's company owed its salvation. They had no vegetable food, and a strictly animal diet, in that region, seemed to furnish all the requisites of perfect health.

By request of Dr. Kinkaid, Dr. Hayes gave his experience with frost bite, and how he had derived valuable aid from the practice of the Esquimaux. He would relate a case falling under his notice. An Esquimaux had his leg frozen above the knee, stiff, colorless, and, to all appearance, lifeless. He was placed in a snow-house at a temperature of 20° below zero. The parts were bathed with ice cold water for about two hours, then enveloped in furs for three or four hours. Then frictions were used, first with the feathery side of a bird skin, then with snow, alternately wrapping the limb in furs, and rubbing it for nearly twenty-four hours. It was then carefully wrapped up, and the temperature of the snow house elevated, by lamps, above zero. On the third day the patient was taken to his house (where they have often a temperature of 70 or 80°), and in seventy hours he was walking about with only a slight frost-bite on one of his toes.

This treatment the Doctor thought highly philosophical, and he

profited greatly by it in his own practice with frost-bitten limbs. The point being to keep away all extreme heat, and allow the vital powers of the system to do their work. By exposing a frozen part to a warm temperature, the skin becomes thawed out, and dies before the circulation can work itself through the underlying frozen tissue.—*Transactions of the Ohio Medical Society.*

The Yellow Jessamine (Gelsemium Sempervirens) in Gonorrhœa.
By Dr. JOHN DOUGLASS.

About thirty years ago, I was called on, in my office, by a young man who had been suffering several months with improperly treated gonorrhœa. One of my pupils begged me to give the case to him, observing that he could cure the most obstinate case in a few days with the root of Yellow Jessamine. A small handful of the root was put into a common junk-bottle of whiskey, and the patient ordered, in a day or two, to take a table-spoonful of this tincture night and morning. He took but a few doses before he became much alarmed, and called on me, stating that the medicine had destroyed his vision. The symptoms he described correspond precisely with those mentioned by Dr. Mayes. Every symptom of gonorrhœa had disappeared, and the cure was permanent. Since that time I have treated many cases of the same character in a similar manner, with uniform and speedy success.

My experience with the medicine is not sufficient to determine whether it is absolutely necessary that the patient should be fully narcotized, but such was the condition in every case which I treated. I have no doubt but a more protracted use in smaller doses would answer the purpose.—*Charleston Medical Journal.*

The Brompton Consumption Hospital.—The anniversary dinner of this Institution was given on Wednesday, at Willis's Rooms, St. James's. Lord Stanley, M.P., was in the chair. The chairman gave the toast, "Prosperity to the Brompton Hospital." In proposing this toast the noble lord stated that of 45,000 deaths which occurred yearly in the metropolitan districts, 5,600 were caused by consumption; thus, excluding infantile mortality, about one-fifth of the deaths arose from this disease. Since the establishment of this hospital it had relieved 5,586 in-patients and 36,030 out-patients; its income had in one year amounted to £19,000, but had averaged between £7,000 and £8,000. During the evening, subscriptions were announced amounting to upwards of £1,000, the noble chairman giving twenty guineas, and the Earl of Derby thirty guineas.

The Statue of Bichat.—A statue in cast metal, by the late David (d'Angers), has just been completed, and will be placed in the courtyard of the School of Medicine of Paris. This beautiful work of art had been ordered by the committee appointed in 1845, by the Great Medical Congress, and has been presented to the Faculty by the committee.

CORRESPONDENCE.

On the Introduction of the Sponge-armed Probang into the Larynx and Trachea.

To the Editors of the American Medical Monthly :

There appeared, a few days ago, in the *New York Daily Times*, a letter over the signature of "Malakoff," the Paris correspondent of that paper, which among other things contained the following declaration :

"A few days ago, Dr. Trousseau, while lecturing on an operation of tracheotomy (his two hundred and fifth operation of the same kind !) for the relief of croup, referred to the operation of Dr. Green, and spoke in the following words in regard to that operation :

"The learned professor denied that *anybody, anywhere*, ever introduced, after Dr. Green's method, the sponge-probang into the larynx. 'A student of Dr. Green's,' said M. Trousseau, 'who was here two years ago, a gentleman who professed to understand perfectly Dr. Green's method, who had himself practiced the operation under Dr. Green's eyes, attempted to perform the operation here, in this hospital, at my request. He failed entirely ; his probang arrived on the opening into the larynx, was pressed there, and then passed on into the œsophagus (the canal leading into the stomach). I convinced him of the fact. I have tried this operation very often,' continued M. Trousseau, 'after the directions of Dr. Green's Treatise on the subject. I had tried it long before the appearance of that Treatise, both on the living and on the dead subject. I have put all the good will possible into my experiments, and I have never been able to succeed. More than this, I have convinced myself that the operation after this method is IMPOSSIBLE, and that it has *never been accomplished by Dr. Green, or any one else.*' "

The writer furthermore avers that "the words of Trousseau quoted above, are the declarations of the profession of France thrown out to the Faculty of New York, and that Dr. Green himself, and the Faculty of New York as well, owe it to themselves, after this speech of M. Trousseau, to endeavor to put this dispute once for all at rest. Either Dr. Green ought to be discarded from the profession and from his high position, or he ought to be declared *and proved* to be entitled to the honor of this important discovery."

This, then, is the *issue*, put in strong and emphatic language, on the question of the practicability or the impracticability of the ope-

ration ! Admitting these to be the words of M. Trousseau, and the above negative opinions those of himself and of his confrères, then myself and my colleagues take the affirmative—we *accept the issue*.

But before we proceed any further, I must protest against the apparent effort on the part of "Malakoff" (who, from his language employed, appears to be a medical man), to make this matter of opinions only, a question of *veracity*.

Dr. Trousseau I have the honor to claim as a professional friend. At our interviews in Paris, we have exchanged opinions freely, but in the kindest manner. He has sent patients to my care in New York, and I have frequently advised them to his. When Prof. Trousseau and his distinguished colleagues affirm that the introduction of the sponge-armed probang into the larynx is impossible, they believe what they affirm ; they are only simply *mistaken in this opinion*. For myself and my friends I claim the same consideration. Unfortunately, perhaps, opinions in medicine, even among the most distinguished of its professors, have occasionally been found directly at variance, and the writer in the *Times* should remember, in the history of medicine, that every discovery and all new doctrines advanced, have at first always met with opposition. When Harvey published his work on the circulation of the blood, "his views," say the historians of those times, "were at first rejected almost universally." The older intellects in possession of the seats and places of authority, regarded them as idle dreams. Joannes Riolanus, then the distinguished professor of Anatomy in the University of Paris, publicly assailed them ; as did Hofman, the learned and laborious professor of Nuremburg, whom Harvey visited in vain, for the sake of demonstrating the truth of his discovery. And Jenner's discovery, likewise, met with no less formidable opposition than did that of Harvey. Paré, too, who first applied ligatures to arteries after amputation, was ridiculed by the French Faculty of Medicine, for "hanging life on a thread, when boiling pitch had stood the test of centuries."* So it has been in this country, as in Europe, in regard to every new medical doctrine. *Facts*, therefore, when established, must be received rather than *opinions* in medicine, however exalted the source from whence these emanate.

The ground and origin of the present controversy are briefly these : the air-passages are lined by a mucous membrane, similar in its nature

* See Willis' "Life of Harvey," and Art. VIII., "Medical Despotism," in *Westminster Review*, Vol. LXV.

to mucous membranes of other parts of the system, and liable to the same diseases—inflammation, ulceration, hypertrophy, etc.

In the treatment of many of the diseases of the mucous membrane, it has long been known to the profession that the topical or direct application of nitrate of silver to the affected parts, constitutes one of the most valuable measures that can be employed. Consequently, attempts were early made by such men as MM. Brettonneau and Trousseau, of France, and Sir Charles Bell and others in England, to reach directly, with this remedy, the mucous lining of the air-passages, whenever this membrane became affected by any of those serious diseases to which, as a mucous surface, it is liable; it being well known that the same topical remedy, if it can be employed, is equally appropriate to the membrane of these passages, when diseased, as to that of any others.

“As early as the year 1818,” writes Prof. Trousseau, in a letter which I received from him two years since, “M. Brettonneau carried over the aryteno-epiglottic ligaments, several times a day, a sponge fastened to the extremity of a piece of whalebone, and charged either with pure chlorohydric acid, or with a saturated solution of nitrate of silver. He expressed (the fluid from) the sponge, at the entrance to the larynx, and the patient, in the convulsive movements of respiration, caused a certain quantity of the caustic solution to enter therein.

“When he performed the operation of tracheotomy, in the last stage of croup, he carried with a small sponge a caustic solution into the trachea, and into the larynx, and penetrated into the trachea by the wound which he had made.”

In 1830, M. Trousseau repeated the experiments of Brettonneau, in Paris, on a large scale, and treated with great success many cases of chronic diseases of the larynx, and croup also, by caustic applications made to the superior portion of the organ, with the sponge-probang, and by expressing the solution into the cavity of the larynx, but without attempting, as he states, “the direct introduction of the sponge, saturated with a caustic solution, into the larynx.”*

Successful as this practice had been—and it is well known to the profession, that practical medicine was greatly advanced by the labors of M. Trousseau, in this field—yet it was found, that when chronic inflammation, or ulceration had extended itself into the

* See the entire letter of Prof. Trousseau, in *AMERICAN MEDICAL MONTHLY* for January, 1855.

larynx, or trachea, the disease was not so certainly reached by applications to the opening of those passages only. Hence attempts were frequently made to introduce the remedy still deeper into these cavities.

In 1838, I returned to New York from Europe, where I had been to obtain, in the hospitals and schools, all the information I could, more especially, with regard to the treatment of diseases of the air-passages. Soon after my return, a strongly marked case of chronic laryngitis, or laryngeal phthisis, attended with ulcerations of the epiglottis and of the larynx and trachea, came under my care. The patient was much emaciated, had severe cough, with expectoration of purulent matter. In the same manner as practiced by Brettonneau and Trousseau, I made applications of a solution of the crystals of nitrate of silver to the ulcerated epiglottis and to the opening of the glottis. The ulcerations of the epiglottis were healed; but the cough, and the expectoration of purulent matter from the larynx and trachea continued; and the patient was evidently sinking under the local disease. I proposed to reach the ulcerations in the larynx and trachea, and had received the consent of the patient to perform tracheotomy for this purpose. In making repeated applications of the caustic solution to the opening of the glottis, I observed that the acute organic sensibility, peculiar to the glottis, which is limited to the narrow zone of mucous membrane that covers the supra-glottic space,—became daily more tolerant to the applications, and I determined to make the attempt to pass this point, and push the medicated sponge into the larynx. *The attempt was made, and was successful;* the instrument passed between the vocal chords, and entered the trachea. A spasmodic cough for a few minutes followed the operation. But the patient subsequently expressed himself greatly relieved. The operations were repeated daily, for a week or more, proving less and less irritative each time;—then, every second or third day, for several successive weeks. The patient improved rapidly after the introduction of the sponge-probang into the larynx, and ultimately, quite recovered. He is alive at this day. During the following year, many other similar cases were treated after this manner, with the like success, for it was found that by properly preparing the parts—by repeated applications of the nitrate of silver solution, first to the fauces and pharynx, and then to the epiglottis and glottic opening; in some cases for many successive days—to the supra-glottic-space—that the acute sensibility of this part, could be greatly diminished, and thus be made to tolerate the passage of the instrument.

In September, 1840, I brought before the New York Medical and Surgical Society, the subject of the treatment of disease of the larynx, by means of the direct application of therapeutical agents, to the lining membrane of this cavity, exhibiting to the Society the instruments by means of which the topical remedies were applied ; and reported fifteen cases of severe laryngeal and bronchial disease, in which permanent cures had been effected by this mode of treatment. Since that time, during a period of nearly eighteen years, I have been almost constantly employed in the treatment of that class of diseases in which topical medication has been conjoined with general remedies ; and during that period I have introduced the sponge-armed-probang into the larynxes and trachea of my patients, many hundred times every year. Within the past ten years, nearly five hundred physicians have been treated by topical medication, for diseases of the air-passages, and more than half this number have in the most positive manner declared their conviction that the instrument was passed below the vocal chords, into the larynx. Many eminent physicians, since this controversy commenced, have volunteered their testimony on this point.

I shall now proceed to give a series of proofs that cannot be set aside, to establish most conclusively the positive performance of this operation.

In 1854 I saw Professor Erichsen's valuable work, "The Science and Art of Surgery," published in London in 1853. In his work, this distinguished surgeon takes up the question, and declares it to be in his opinion "utterly impossible to pass a whalebone, whether curved or straight, armed with a sponge, beyond, or even between the two vocal chords." Mr. Erichsen has frequently endeavored to do this, in cases of cut-throat, "but in no one instance," says he, "have I succeeded in passing the sponge so as to make it appear at the external wound." After seeing this statement, and having learned also, about the same time, that Professor Trousseau had, at the Hotel Dieu, in the presence of several medical gentlemen, expressed his conviction that the passage of a sponge-armed-probang into the larynx, cannot be effected, I determined to institute a series of experiments that should prove unanswerably its positive performance ; although, during all these years in which I had employed topical medication, I had never for a moment doubted its practicability. As in the investigation of this subject, almost every experiment which could in any way establish the affirmative of the question, has, in one way or another, been instituted by myself or my friends, I will, in as brief a manner as possible, particularize a few of them.

1. In the presence of medical men, I have repeatedly performed the following :—Selecting some person from among my patients, who was well prepared by previous operations, I have introduced a sponge-probang into the larynx, and letting go the handle for a moment, have quickly passed a second probang up and down the œsophagus, passing the former without disturbing it in the least degree. This any one may prove, cannot be done when both instruments are in the œsophagus.

2. In cases where stricture of the œsophagus has been present, through which the sponge-probang *could not be passed*, I have repeatedly, in the presence of surgeons—who had previously pushed the sponge-probang as far down the œsophagus as it could be carried—introduced the same instrument into the trachea four or five inches *below the stricture*.

In the presence of many physicians and surgeons—among them Dr. Sims, Professor E. H. Parker, Dr. Sayre, and my colleagues, Professors Barker, Davis, and Peaslee, of New York ; Dr. Bowditch, of Boston ; Professor Davis, of the University of Virginia ; Crowcour, of New Orleans ; Smith, formerly Surgeon in the Army of Mexico ; and others, whose names I cannot recall (all of whom will testify to their having seen some one or more of the experiments)—the following experiments were performed :

3. To the extremity of a flexible tube, of the size of Nos. 11 or 12, catheter, was attached a sponge of the same dimensions with those which are used with the ordinary throat-probang, but in such a manner as to preserve the opening in the side and near the end of tube, free. Wetting the sponge in a strong solution of nitrate of silver, and selecting a patient who had been some weeks under treatment for disease of the windpipe, into whose larynx and trachea I had introduced many times (as I believed) the sponge-armed-probang ; I passed this instrument, in the presence of several of these gentlemen, down to the vocal chords, through the rima-glottidis, and several inches into the trachea ; then withdrawing the wire from the tube, the patient was directed to close his lips, and breathe through the tube. This he did for several moments, filling and emptying the chest of air repeatedly. A lighted lamp was then extinguished several times *by blowing through the tube*.

4. Into the trachea of another patient, the organic sensibility of whose glottis had been reduced by repeated applications, the sponge-armed tube was introduced in the same manner, and then one of the physicians present closed completely the anterior nares, and compel-

led the patient to breathe only through the tube. This he did for several minutes, respiration being performed freely through the inserted tube. With regard to this case, Dr. Sayre, an eminent surgeon of this city, thus testified before the Academy of Medicine, when the discussion on this subject took place, with that body, some time ago: "The instrument was introduced," said Dr. Sayre, "without producing any of the alarming symptoms stated in the majority report." Dr. Sayre then closed the mouth and held the nostrils shut, so that no air could, in any manner, enter the lungs except through the tube. "I was determined," said he, "to test this case thoroughly. The patient breathed thus for several minutes. He then showed signs of suffocation, and Dr. Sayre was on the point of opening his nose and mouth, but Dr. Green said that the trouble arose from the tube being stopped with mucus. Dr. Sayre then blew forcibly into the tube—the patient was instantly relieved, and remained a considerable time longer in that condition, breathing, without trouble, through the catheter."*

The above experiment was repeated subsequently, over and over again, always with similar results; and in each instance in the presence of several medical men; care being always taken (and this has been insisted upon, from the beginning of this treatment,) that the glottis be thoroughly prepared, before the attempt was made to introduce the instrument below the vocal chords. But we have testimony still more positive to prove the affirmative of the question.

5. Soon after the discussion in the New York Academy commenced, to which "Malakoff" refers, my colleague, Prof. Carnochan, called on me, and stated that there was then "in his office a patient who a twelvemonth before, in a fit of insanity, attempted suicide by cutting his throat; the wound had never perfectly healed, and that this case would afford me an opportunity of demonstrating positively, that the disputed operation can be performed, as a small permanent opening into the trachea still remained. Taking with me an ordinary sponge-probang, such as I am accustomed to use daily, in the treatment of my patients, I accompanied Dr. Carnochan to his rooms, and in his presence, at the second attempt, and without much difficulty, I introduced this instrument through the rima-glottidis into the larynx, until the sponge made its appearance and was seen by Prof. Carnochan, *at the opening in the trachea.*

6. I have had recently under my care a young woman, upon whom

* American Medical Monthly, August, 1855.

the operation of tracheotomy was performed several years ago. An opening into the trachea, just above the top of the sternum, has remained ever since. But the opening being quite small, and passing obliquely into the trachea, it is impossible to see into this tube. This patient was under my care for chronic pharyngo-laryngeal inflammation, for which she was successfully treated by topical medication.

As this appeared to be an excellent case to prove the practicability of the operation in question, for the patient breathed much of the time through the larynx, I determined to make the attempt to pass the sponge-probang through the trachea to the opening. To prove its presence at this point (for it could not be seen through the small oblique opening), my assistant, Dr. Richards, bent a small wire of German silver, and passing the bent wire into the opening, sufficient to have it just penetrate into the trachea, retained it there, while I passed the sponge-probang, wet with the nitrate of silver solution, quickly down the trachea upon the bent wire. The meeting of the sponge with the wire was plainly felt, and on withdrawing the latter, it was blackened by its contact with the caustic. This operation was repeated a number of times, in the presence of several physicians, and with the same result.

It would seem as if the above experiments were sufficient to prove to any candid member of the profession, that the introduction of the sponge-probang into the larynx *is possible*. But I shall take the liberty of appending to my own, the direct testimony of a few distinguished members of the profession, who have repeatedly performed this operation themselves, or into whose own larynges the sponge-probang has been introduced, and then submit to the profession, in France and America, whether as M. Trousseau affirms, the operation "IS IMPOSSIBLE, and that *it has never been accomplished by Dr. Green or any one else?*"

Dr. Conant, one of the most accomplished anatomists of this city, and Professor of Surgery in the University of Vermont, testifies as follows :

DR. GREEN :—*My Dear Sir,*—In 1854, soon after Prof. Erichsen's work was published, I was appointed physician in the Mott Street Cholera Hospital ; and as, at that time, the question, of the practicability of introducing the sponge-probang into the larynx, was much agitated, I made many experiments upon the cadaver. In more than one hundred cases, I succeeded in passing the sponge-pro-

bang into the trachea ; in more than fifty of these cases, I performed tracheotomy, and in every instance found the sponge in the trachea. Many of these operations were witnessed by members of the profession in this city. I have also operated many times since, before my classes in the dissecting room, and before the public classes in the University of Vermont, and always with the same result. Never, in any of the operations I have performed, have I experienced the difficulty spoken of by Prof. Erichsen ; nor have I, in a single instance, found the probang distorted into those "extraordinary curves" which he has represented in the article on this subject, published in the *London Lancet* for December, 1855. The operation on the cadaver is so perfectly easy that students are as readily taught its performance as the introduction of the catheter into the bladder. Upon the living, the operation is more difficult, but perfectly practicable. I have seen Prof. Carnochan pass the sponge-armed-probang down to the opening made in the trachea of a cut-throat. By the kindness of Dr. Turner, of the Kings County Hospital, I had an opportunity, on the 22d instant, to try the operation upon an adult, and also upon a young child, in both of whom tracheotomy had been performed, and was successful in both cases, in passing the sponge-probang into the trachea.

Yours truly,

D. S. CONANT.

From Dr. Barker, Professor of Midwifery in the New York Medical College.

My Dear Doctor,—In reply to your note, I am most happy to say that I have had conclusive evidence that the sponge-probang has been passed through the larynx into the trachea in repeated instances :

1st. In a patient of Dr. Carnochan's, who, in a fit of delirium, during illness, had attempted to commit suicide by cutting his throat, there remained a permanent opening into the trachea. I saw Dr. Carnochan pass the sponge-probang down through the larynx until the sponge made its appearance at the opening of the trachea.

2d. In another patient that I saw at your office, there was a stricture of the œsophagus from malignant disease, about four inches below the pharynx, through which a tube could not be passed ; yet I saw you, in the presence of several other medical men, pass the sponge-probang down at least ten inches.

3d. In some few patients of my own, I have distinctly seen and felt the sponge externally about an inch above the sternum. When

passed down the œsophagus, it can neither be seen nor felt externally.

4th. I have heard intelligent patients, many of them medical men, and able to determine the point by their own sensations, *affirm* the passage of the sponge into the trachea. I see no reason for discrediting their statements.

5th. I regard the *positive* testimony of such men as Prof. Bennett and Dr. Scott, of Edinburgh; Dr. Watson, of Glasgow, Dr. Cotton, at the Hospital for Consumption at Brompton, Dr. Hastings, of London, and many others, distinguished in this department of practical medicine, that they have, in numerous instances, performed this operation, as far outweighing any amount of *negative* testimony, from "anybody anywhere." *Negative testimony*, under these circumstances, is simply a confession of individual incompetency and inability.

6th. That there is no anatomical impossibility in passing the sponge through the larynx into the trachea, is proved from the fact that the operation can be easily, and has been repeatedly, demonstrated on the cadaver.

Very sincerely yours,

FORDYCE BARKER.

70 UNION PLACE, July 25, 1857.

45 LAFAYETTE PLACE, July 29th, 1857.

My Dear Sir,—As the possibility of passing the tracheal probang, armed with the sponge, has been recently discussed, I beg leave to contribute the following observation, which in connection with your exposition of the entire question, is sufficient to convince me that the operation can be performed.

About ten months ago I was waited upon by a young man, who had attempted self-destruction by cutting his throat. The line of the incision when seen by me, about twelve months after the attempt, extended across the anterior portion of the throat, and the trachea had been divided through three-fourths of its calibre, immediately below the cricoid cartilage. The patient used a tracheal tube through the aperture made by the wound, and thus performed the function of respiration with great ease. Nevertheless, he was very desirous of having the aperture closed, and of getting rid of the use of the tube.

Upon withdrawing the tube, and closing, for the moment, the aperture in the trachea, respiration became exceedingly difficult, owing to the falling forward of the larynx, and to a partial contraction of the respiratory tube above the wound. This, of course, deterred me from performing any autoplasmic operation, for the purpose of closing the

aperture. Proceeding, however, to try and effect a dilatation of the interior of the larynx, I began by passing flexible bougies through the aperture, from below upwards into the larynx

The first trials were attended with violent spasmodic action, during which the patient seemed threatened with asphyxia. After a time, however, the paroxysms ceased to manifest themselves, and the patient became enabled to pass the bougies with his own unaided hand, so that the beak could be seen in the cavity of the mouth.

Seeing the feasibility of passing an instrument from below upwards through the rima-glottidis, I was induced to make the experiment of passing the sponge-probang in the contrary direction, by the mouth, from above downwards, and succeeded in doing so, the sponge presenting itself at the aperture in the trachea. Subsequently, at my request, and in my presence, you performed the same operation upon the same patient, using a probang with a sponge measuring between five and six lines in diameter when expanded.

To conclude, it is my opinion that the muscles called constrictors of the larynx, were not in any way paralyzed.

I am, dear Sir, with much respect, very truly yours,

J. M. CARNOCHAN.

Prof. HORACE GREEN.

We do not deny the difficulties which attend the operation for the direct medication of the air-passages, or rather those which are met with in preparing our patients for its employment. These, however, in most cases, may be overcome; and happily, in the treatment of several mortal diseases—as membranous croup and œdema glottidis—these preparatory measures are not necessary.

I have in my possession the written testimony of a large number of intelligent physicians, from different parts of the United States, who have been under my care for the treatment of laryngeal, or bronchial disease, who affirm, in the most positive manner, that they have had, in their own cases, *the sponge-armed-probang introduced repeatedly into the trachea.*

But this testimony I must omit for the present, and shall close this long communication by a reference to an opinion expressed by Prof. Trousseau himself, in his writings in 1837, and to an interesting fact in the history of medicine. “The entire generation of medical men,” say MM. Trousseau and Pidoux, in their *System of Medicine*, “turns its back on truth, and will have to march perhaps for some time yet in error, until they shall fall by its own consequences.”

The historical fact to be remembered is this, that the immortal Harvey himself opposed to the last, Aselli's important discovery of the lacteals and lymphatics, vessels which are absolutely necessary to complete his own theory !

HORACE GREEN.

EDITORIAL AND MISCELLANEOUS.

—The health of the city continues to be very good. The number of deaths is below the average, and there is no general epidemic. In some portions of the city measles prevail to a considerable extent, not in a very grave form. The warm weather of the last fortnight has begun to produce its effect on infants, and diarrhœas become more prevalent. As yet, this disease has not prevailed to its ordinary degree. Thanks to the exertions of the City Inspector, the streets are in better condition than usual, and this although two months since they were more filthy than ever before. We trust his new broom will continue to sweep clean. Of yellow fever we have none, although some cases of it have arrived at quarantine. Small-pox too, has been imported there, and people in the inland towns and cities may thank the strictness of New York laws that this infection has not been spread among them profusely.

—The treatment of deformities has been frequently spoken of in our pages as being remarkably successful in the hands and by the method of Dr. H. G. Davis of this city. Speaking from our own observation, we are somewhat decided in our opinion, but can still appreciate the doubts expressed by many professional friends, as to the possibility of accomplishing so much by apparatus. Two cases have lately been under treatment, one of which we saw, and both of which have been remarkably successful. So striking are they that we give a short sketch of them, and cuts showing the change in the curvature of the spinal column as measured over the spinous processes. These cases, were there no others, would be sufficient to prove the erroneousness of the common opinion that it is dangerous to straighten patients in advanced stages of Pott's disease. It may be worth while to repeat that the mechanical treatment is only an auxiliary to hygienic and constitutional treatment. That the appliances do not interfere with the taking of exercise and constant exposure to the pure air is not their least recommendation. The first case is that of Wilbur Fisk Wood, son of Samuel S. Wood, of Roch-

ester, N. Y. The disease, which was in the dorsal vertebræ, was of four years standing, and deformity has been noticeable for *three* years. He has been very restless at night, crying out in his sleep, and presented the usual symptoms of Pott's disease in this region. Has been treated by Dr. Willard

Parker, and Dr. Livingston. The father states that under their treatment his general health had improved, but the deformity steadily increased. His height was 43 inches, and he stood with one hand on the knee. The cut shows the change in twenty days,—the dotted line showing the curvature before Dr. Davis's apparatus was applied; the continuous line the curvature after it had been worn 20 days. The increase in his height was five inches. He now stands erect, his general health is improved, and he is gaining in flesh and strength. The second case was that of Richard Graves, Jr., of Kinderhook, N. Y., aged 15 years. He has had Pott's disease of the lumbar vertebræ for *three* years. It has been attended by partial paralysis of the lower extremities. He walked with difficulty around the house, and had the expression of one suffering. He has worn apparatus applied by Dr. March, of Albany, though not with the expectation of remedying the deformity. The cut shows the change in curvature after four weeks treatment, the dotted line being, as before, the original deformity. The paralysis has disappeared, and the patient walks and rides without difficulty. He has gained in flesh, and his appetite is excellent, as is ordinarily the case in Mr. Davis' experience. This apparatus appears to us to be the *only* one yet devised which corrects the deformity in Pott's disease, does not confine the chest, and still permits the patient to exercise freely.

—Yellow fever has made its appearance in Philadelphia, two cases being reported as fatal previous to the 28th of July. They were both from vessels just arrived, and were sick before reaching that port. It is a singular coincidence that one of them should have been in the same neighborhood in which the earliest cases occurred, in 1853. If vessels are allowed to pass the quarantine station of

that port with persons on board so sick as to die of yellow fever in three or four days after landing, there will be need of something more than the performance of such farces as was the late quarantine *convention*, so-called, to preserve the health of that city.

— The following account of the recent improvements at Bellevue Hospital, we take from the *Times* :—

Extensive improvements are making at Bellevue Hospital. An additional story is adding to the main building and to each of the wings. When completed, the central building will be four stories high, with a capacious basement. The wings will be each three stories high, not including the basement. The cupola on the main building, from which an extended view of Long Island Sound and the adjacent country may be obtained, is to be moved back so as to surmount the Westerly part of the edifice. Where it now stands a large glass dome will be erected, through which daylight will be admitted into a new and commodious apartment that is to occupy the entire fourth story. This chamber will be used for a lecture-room and operating theatre. It will accommodate 600 persons. Here the dissections will take place before the students of medicine who are admitted to attend them. There is nothing like this operating theatre in the United States. In the basement of the main building will be the large kitchen, (besides which there are kitchens for special cooking in each of the wings) the store-rooms and pantries, &c. In this building, also, will be located the apartments of the apothecary of the Hospital, and the orderly man, his assistant, the office for the reception of patients newly arrived at the Hospital, the offices of the Warden and other officers of the institution, the house staff of physicians, and the dwelling apartments of the Warden and resident physicians.

In the wings will be the apartments set apart for the patients. The males will occupy the North wing, which is divided into twenty-four wards, each under the care of a separate male nurse, with a female assistant. The nurses in the Hospital receive \$12 per month and their board as a compensation for their services. The assistant nurses receive \$5 per month and their board. The female patients will occupy the South wing, which is divided into sixteen wards, each attended by a female nurse and assistant. At present both males and females occupy the North wing, and will continue to do so until the enlargements are completed.

The entire length of Bellevue Hospital, if the building were extended in a straight line, would be 700 feet, and its depth 50 feet. But its shape, as it now stands, is like that of the letter H, with the top of the right leg taken away. The building stands in the midst of a plot of ground containing five acres of land, bounded by Twenty-eighth and Twenty-sixth streets on the North and South respectively, by First Avenue on the West, and extending to the river on the East. The North wing extends nearly the whole distance from First Avenue to the East River. The main building extends mid-

way between the avenue and the water between the two wings ; the South wing extends from the line of the main building back to First Avenue. When a further enlargement of the Hospital accommodations is called for, it is the intention to extend the South wing to the river, thus completing the rectilinear equilibrium of the whole. But this addition will probably not be needed for ten or twelve years to come. There will be Hospital accommodations at Bellevue for 1,200 patients when the present alterations are completed. A portion of the North wing was added last Winter, and at present 600 patients can be accommodated in the institution.

All the modern improvements are being introduced into the Hospital. There will be water-closets and bath-rooms, with hot and cold water, in each ward, ventilating apparatus and gas. Coils of pipe have been placed under the roofs, and the walls perforated on every floor, and in the Winter time the entire establishment will be heated with steam. Iron verandahs, supported by iron pillars, extend in front of every story on the Southern and Eastern (the coolest) sides of the Hospital. The verandahs are connected by iron stair-cases, so that one can descend from the highest story to the ground by this outside arrangement. In case of fire this mode of egress would be open to those in the upper stories when it was impossible to descend inside. On these verandahs, too, the invalids may sit in warm weather in the shade, and enjoy the breeze from the water. The grade of the ground is to be raised nearly three feet, so as to make it even with the base-line of the buildings. The plot of ground between the edifice and the water will be laid out into a lawn and vegetable garden, which convalescent patients will be set to work to beautify and cultivate. At the South side of these grounds a dead-house was erected last year, to which all the out-door poor are sent. It is a brick building, two stories high, and \$3,000 were expended in its erection. The upper story is occupied as a Pathological Museum and Lecture Room.

That portion of the North wing, which was recently erected, cost \$60,000. The expense of the enlargement and improvement now in progress will be \$100,000. The Hospital part of the enlargement will be completed in August, the dwelling parts will not be ready for occupation until November. Meantime the usual routine at the Hospital is not interrupted. There are as many patients there as is usual at this season of the year. The Surgeons hold their practical clinics twice a week, on Wednesdays and Saturdays, and Professor Metcalf lectures every Tuesday and Thursday. The House Staff is composed of twelve physicians, who serve for one year, and are appointed semi-annually, six in April and six in October. Candidates for these appointments are examined by the Medical Board, by whom they are nominated to the appointing power, the Board of Ten Governors.

Removal of the Nauseous Taste of Cod Liver Oil.—We find in the *Répertoire de Pharmacie*, that M. Leperdriel advises, to conceal

the disagreeable taste of cod-liver oil, by the addition to the latter of about ten per cent. of common salt. Not only does the salt render the oil palatable, but it causes the stomach to digest the oil more completely. All the fish oils may be masked in the same manner.

Method of Promptly Relieving Facial and Dental Neuralgias.—This method consists in turning into the meatus auditorius from four to ten drops (according to the age and sensibility of the patient) of the following fluid ; then to close the opening of the ear by means of a little cotton, and to cause the patient to hold the head inclined for some minutes to the side opposite to the seat of the pain, so that the liquid may remain in the bottom of the ear. This preparation is thus made : R Take of the extracts of opium, of belladonna, and of stramonium, each *one part* ; of distilled cherry laurel water, *twelve parts*. Dissolve and filter.

Although this preparation may be only extemporaneous, it may nevertheless be preserved if care is taken to keep it cool, and to pour on its surface from two to four drops of sweet almond oil.

It is very rare that with the use of this liquid relief is not obtained in a few minutes ; indeed, the patient is almost always asleep in half an hour, whatever may have been the severity of the pains, and that without having been in the least danger.

Absorption takes place almost as rapidly as from a denuded surface, and it is therefore unnecessary to blister the patient when we wish to use narcotics, since they act almost as rapidly by the auditory passage.

If it should happen that, at the end of eight or ten minutes, the pain does not yield to the remedy (which sometimes happens when the quantity used has been too small, or when we have to treat a neuralgia which has already required the use of narcotics in any way), it is necessary then to use a second dose, at least equal to the first, but in the opposite ear, in order to obtain promptly that relief which is only too frequently momentary in facial neuralgias of long standing.

The preference which I give to this aqueous solution over those which contain alcohol, such as laudanum and other narcotic tinctures, arises from having used both upon myself for several years for a facial neuralgia, and observing that the latter produce a sensation of quite acute pain at the moment of their use, and not being always as successful as the former, which causes neither heat nor smarting, and is more certain in its effects.—MICHEL ANDRE, in the *Revue de Thérapeutique*.

THE AMERICAN MEDICAL MONTHLY.

SEPTEMBER, 1857.

ESSAYS, MONOGRAPHS, AND CASES.

Fibrous Tumor of the Uterus; Excessive Hæmorrhage; Removal by Excision. By B. FORDYCE BARKER, M.D., Professor of Midwifery, &c., in the N. Y. Medical College; Physician to Bellevue Hospital, &c.

Mrs. —, aged 46, mother of three children, the youngest of which is 13 years old, has for three years past been suffering from occasional attacks of uterine hæmorrhage, some of which have been exceedingly severe. During the past year she was principally under the care of Prof. Trousseau, of Paris. In September, 1856, Dr. A. Hamilton Smith, her usual medical attendant, was present at a consultation in Paris, when her case was carefully examined by MM. Trousseau, Velpeau, and Nelaton, and the result of their deliberations, as stated to me by Dr. Smith and the patient herself, was that the hæmorrhages were due to a non-pediculated fibrous tumor of the uterus, which was not susceptible of removal by an operation, but which possibly might eventually become pediculated. I first saw Mrs. — Dec. 28th, 1856. She had returned from Europe a few weeks before. Menstruation commenced the 22d, but there was no profuse hæmorrhage until the 26th, when it became very abundant. She had vainly endeavored to arrest it by the use of alum covered with cotton batting in the vagina, the local application of ice, and by various internal remedies recommended to her by Prof. Trousseau.

The numerous prescriptions which he had made out for her, comprised almost every known variety of styptic and astringent agent in use, and was a convincing proof of the severity of her former attacks. Her condition, when I first saw her, was such as to excite the gravest apprehension. Her countenance was sallow, pinched, and haggard, her respiration hurried and catching, her pulse small and sharp, 116 per minute, the surface cool and moist. She complained of severe pain in the head, ringing in the ears, and a sense of "suffocating oppression at the heart." On making a vaginal examination, the uterus was found to be large and heavy, the os tinæ very patulous, through which the hot blood was steadily trickling into the vagina. I at once proceeded to tampon the cervix and vagina. Soaking a quantity of what is known as "jeweller's batting" in a saturated solution of alum, successive layers were first inserted into the cervix and then into the vagina, until it was packed as firmly as possible. She was directed to take a teaspoonful of the following prescription every hour :

R.	Acid, Gallic.	
	Pulv. Acaciæ G.	aa ʒij
	Tr. Opii Camph.	ʒss
	Syr. Limonis,	ʒjss
	Aq. Puræ,	ʒij

M.

On visiting her three hours afterwards I found the tampon completely afloat in the vagina. I again filled the cervix and vagina as before, introducing all the batting it was possible to get in.

Dec. 29th. The patient had slept none during the night. She had saturated six napkins since 2 A. M. The tampon had seemed to control the hæmorrhage for a few hours, but now it did not apparently half fill the vagina, which had become very sore and tender to the touch from the irritation of the alum. I now tamponed the cervix as completely as possible with a piece of sponge, and then filled the vagina with the Kite tail tampon.

4 P. M. Hæmorrhage still unchecked. She has taken in twenty-eight hours, ʒij of gallic acid. I again filled the vagina, without removing the batting already in, and prescribed the following :

R.	Ol. Terebinth	
	Syr. Limonis	aa ʒij
	Pulv. Acaciæ	ʒss
	Ol. Cassiæ	gtt. iv

Misce. Two tablespoonfuls every half hour.

9 P. M. There has been no hæmorrhage since seven o'clock, when

a dry napkin was applied to the vulva. There has been one copious discharge from the bowels, attended with pretty severe colicky pain, but no strangury. From this date until the morning of Jan. 2d, there was no more hæmorrhage, and efforts were made during this period to restore the general powers of the system by the use of stimulants, beef tea, and codine, the only preparation of opium which she tolerated well.

On the morning of Jan. 2d, I found that a moderate amount of hæmorrhage had again appeared, and the decoction of Matico was ordered :

R.	Fol. Matico	-	-	-	-	℥ij
	Aq. Bullient	-	-	-	-	℥i
Misce.	A wine glassful thrice a day.					

Before she had time to procure the prescription from the druggist, I was again summoned in great haste, the hæmorrhage having become very profuse. She was previously so extremely anæmic, that the loss of even an ounce of blood was fearful. I at once plugged the vagina with the batting soaked in the decoction of Matico, and directed an ounce of the decoction with thirty drops of the Tinc. Secale Cornu. to be taken every hour. She had no more hæmorrhage from this time, but for many days it seemed impossible to rally her from the collapse which followed. The countenance was swollen and puffy, the mind confused and wandering, the respiration hurried, panting, and very frequent, the pulse varying from 120 to 140, and the surface cold and clammy. Friction and dry warmth to the extremities, beef tea, brandy, and iodine were assiduously kept up, but I believe she would have succumbed had it not been for a suggestion made by my father, Dr. Barker, of Maine, who was then visiting me. He proposed to me "to keep what little blood there was circulating in the system in the vital organs." On this hint, I at once acted. I at first compressed both brachial arteries with my thumbs, and the breathing soon became slower and easier, and she begged me to continue the pressure. I then arrested the circulation so far as possible through the brachial and femoral arteries, by means of compresses and bandages, and in a few moments she fell asleep.

On account of the difficulty of breathing, she had not slept before, except for a moment at a time, for nearly three days. So great was the relief that she derived from this expedient, that she kept the bandages on for three nights and two days, only having them loosened occasionally for a few moments, to have the circulation restored in the extremities by friction, &c. It is unnecessary to detail the vari-

ous measures resorted to to bring up the system, by proper nutrition, stimulants, and tonics. Jan. 17th.—Dr. F. U. Johnston was called in consultation, and made some valuable suggestions to facilitate this end. As soon as her strength would permit, I made a careful physical exploration, in order to determine the exact pathological condition which had given rise to these hæmorrhages. The os was found very much closed as compared with the state during the hæmorrhage. The uterus was greatly hypertrophied, measuring by the sound six inches and three-fourths. The point of the sound was felt through the abdominal walls just at the umbilicus. A catheter was passed into the bladder, while the sound remained in the uterus, and by a careful manipulation, a tumor in the interior of the latter was clearly defined, commencing just above the junction of the cervix. No change of the posterior wall, except enlargement, could be detected, by a careful examination through the rectum. The diagnosis was a submucous fibrous tumor of the anterior wall of the uterus. The hæmorrhages were regarded as conclusive evidence of the submucous development of the tumor. It now became an important point to determine whether anything could be done to avert the danger from these recurring hæmorrhages. It was evident that she could not survive another such attack, or anything like it. Each recurrence left her less and less able to resist its effects, while the severity was constantly increasing, the tumor inducing a development of the vascular system and mucous surface of the interior wall, analogous to that which occurs in pregnancy. The possibility of removing this tumor, the source of the evil, became a matter of serious consideration, and after maturely weighing the whole subject, it seemed to me not only practicable, but as the only resource which offered to prevent an inevitable fatal termination. Dr. Johnston was again called in February 9th, and the whole scheme, with the arguments pro. and con. were laid before him. Dr. Johnston was satisfied as to the feasibility of the operation proposed, but he was doubtful as to the capability of the patient to endure the shock of such an operation. By his advice Dr. Mott was also consulted, but the patient, from a delicacy easily understood, declined to submit to a personal examination from others, and he was only able to give an opinion on general grounds. Dr. Smith, in whose opinions she placed great confidence, based on a long experience of his medical tact and judgment, advised the operation, as offering a chance for recovery which she could not otherwise have. The first step in the operation was to effect a complete dilation of the cervix uteri, by means of compressed sponges, gradually increasing

in size. This required twelve days before it was satisfactorily accomplished.

The operation was performed on Monday, Feb. 23d, with the efficient aid of Dr. Johnston and two reliable nurses, and Dr. Charles A. Budd, of whose experience and judgment in administering chloroform I had before had convincing proof. The patient was first brought completely under the influence of the chloroform. She was then placed on her abdomen, across the bed, before a strong light from the window. The perineum was then lifted up and kept in this position by the curved elevator of Dr. Sims, while the nates were separated as widely as possible by the hands of the nurses assisting. A double hook was then inserted into the posterior lip of the cervix uteri, raising it up so as to fully expose the tumor within the cavity of the uterus. A second hook was then passed into the substance of the tumor. This was effected with some difficulty, as it had a cartilaginous hardness, very distinct from the surrounding tissue of the uterus. I had three knives, with long stout handles, made expressly for this operation; one with a curved, cutting edge, and the others were curved on the flat sides—one with an edge looking to the left, to be used with the right hand; the other with an edge looking to the right, to be used with the left hand. First, an elliptical incision was made through the mucous membrane covering the tumor; then, with the other knives, the tumor was dissected out from the tissue of the uterus. Not a tablespoonful of blood was lost by the operation. The tumor was two and a half inches in length, about an inch and a half in breadth, and of a dense fibrous structure. Dr. Johnston and myself both carefully examined with the finger to ascertain whether any portion of the tumor remained, but finding none, and there being no hæmorrhage, the patient was again replaced in bed.

She soon rallied from the influence of the chloroform, and the system exhibited for several hours no evidence of a severe shock. After staying with her about three hours, I left her perfectly comfortable. I returned after an absence of less than an hour, and found that the shock was just becoming apparent. The countenance was anxious the breathing hurried, the pulse rapid, 124, and the surface covered with a cold sweat. On examination, I found a good deal of oozing of blood from the vagina. I at once gave her sixteen drops of Majendie's solution of morphia, and then proceed to fill the *cavity of the uterus* and the vagina with batting, packing as closely as possible. This was allowed to remain but a few hours, as I felt that great danger was to be apprehended from an extensive suppurating surface in

the cavity of the uterus. Reaction gradually came on, and although I did not feel safe to leave her, yet I had the pleasure of seeing her pass the greater part of the night in quiet and tranquil sleep. Dr. Johnston continued his attendance with me for some days subsequent to the operation. A very moderate sero-sanguinolent discharge came on the second day after the operation, which continued for sixteen days, and then entirely ceased. Her convalescence was rapid. She gained flesh and strength, and on the twenty-sixth day after the operation she was able to ride out. She regarded her general health as better than it had been for some years previous to the operation. There was no appearance of menstruation in the months of March or April, but the function was again reëstablished in the month of May. For some days it was normal as to quantity, but gradually it assumed a hæmorrhagic character, and profuse flooding came on. Being out of town, my friend, Prof. Metcalf, was called in, and found the hæmorrhage exceedingly difficult to arrest. On my return, May 27th, Dr. Metcalf had the hæmorrhage well under control, although it had not entirely ceased. On a careful examination, I became satisfied that the hæmorrhage was due to imperfect cicatrization of the wounded surface. By means of a uterine tubular sound, I introduced into the cavity of the uterus a portion of the following ointment :

R.	Zinci Sulph.	3i
	Ung. Stramonii	3iij
	Ung. Cetacei	3i

M.

Two applications of this ointment entirely arrested the discharge. She menstruated normally in the months of June, July, and August. With the exception of a pretty severe and obstinate bowel complaint, her health has been most satisfactory during the Summer.

I hardly think there can be a doubt as to the propriety of the operation performed in this case. The patient's life must have inevitably been destroyed by the hæmorrhage which occurred in connection with menstruation. The method adopted by the removal of the tumor was unique, but it was the only plan which seemed practicable and safe. The operation by enucleation, an opening being made either by caustic potass, as practised by Prof. Simpson, or by the knife, after the method of Amussat or Maisonneuve, was entirely out of the question. The case also differed from that reported by Prof. Pancoast, of Philadelphia, and the one reported by Mr. Teale, of Leeds, in that the tumor was entirely within the cavity of the

uterus. Neither does the case bear any resemblance to those reported by Dr. Atlee, of Philadelphia, either as regards the motive for operating, or the plan of operative procedure. Mr. Grimsdale, Surgeon to the Lying-in Hospital, Liverpool, in an article "On artificial enucleation of Uterine Fibroid Tumor," published in the January number of the *Liverpool Medico-Chirurgical Journal*, and quoted in the last number of *Braithwaite's Retrospect*, gives the following conditions as necessary to justify the operation for enucleation.

1. There must be present some symptom, as hæmorrhage, intractable, and of so serious a nature as, if allowed to continue, would almost inevitably sooner or later destroy life.

So long as the tumor is quiescent, attended by no formidable symptom, it would manifestly be highly improper to propose any interference, that might of itself seriously compromise the patient's safety ; but in the presence of frequent and exhausting hæmorrhages, inevitably fatal in their tendencies, it becomes a question of anxious interest, to both surgeon and patient, whether or not any operation can afford a fair prospect for relief.

2. The tumor should be a single one, as may be generally known by its globular form.

On this point I wish to correct a misconception I believe to be prevalent, viz : as to the infrequency of single fibrous tumors of the uterus. Most writers on these subjects vary in general terms, or lead their readers to infer that it is quite the exception to find a solitary tumor of this kind ; in the great majority of cases, say they, these tumors are plural, or even in considerable numbers. Now in opposition to this, Mr. Pollock's records of post mortem examinations, at St. George's Hospital, show that in more than one-half of his cases the tumors were single.

3. The tumor should be surrounded by hypertrophied uterine tissue. When such is the case, we can always by auscultation detect an uterine bruit more or less loud, and I should be unwilling to operate unless this was present.

4. The more the tumor bulges inward towards the uterine cavity the better.

5. A time should be chosen, if possible, at which the system shall somewhat have rallied from the effects of the antecedent hæmorrhages.

These conditions all existed in the present case, and were equally applicable to the operation performed.

I should mention that the hypertrophy of the uterus has in a great

measure disappeared since the removal of the tumor. Aug. 7th, the uterus measured by the sound three and a half inches. The patient is also entirely relieved from some symptoms which had been very troublesome for nearly three years, viz : bearing-down pain, a desire for frequent micturition, and a "jarring faint pain" in the uterine region when she walked or rode in a carriage.

In conclusion, I should not do justice to my own feelings, if I omitted to acknowledge my indebtedness to Dr. Johnston for his efficient aid and valuable suggestions during the treatment of the case.

70 UNION PLACE, August 27th, 1857.

Case of Rupture of the Small Intestine and Peritonitis, from a Slight Blow on the Abdomen. By THOMAS TURNER, M.D., Resident Physician of Kings County Hospital.

M. K., aged 35, the night watchman of the hospital, a stout, healthy man, with the exception of a chronic discharge from a diseased condition of the lower extremity of the left femur, received an injury accidentally, in a playful scuffle with a friend, which resulted in the following symptoms, a fatal termination, and the post mortem appearances to be described. The manner in which he received the injury, as related by himself and corroborated by persons who witnessed it, was as follows : Two young men were walking before him. He stepped between them and put an arm around each to raise them from the ground, when one of them suddenly raised his knee, striking him with it a blow in the left inguinal region. Dr. Farley, one of the House Staff, saw him immediately after the accident, and found him suffering great pain in the abdomen and back, vomiting, with weak pulse, and the cutaneous surface covered with a profuse, cold perspiration. He found, on examination, a tumor in the left groin, having the appearance of hernia. The man had not, to his knowledge, had hernia previously. With some difficulty the intestine was replaced in the abdomen, but as it was found to descend again, and the symptoms of severe nervous shock continuing, I was called in to see the patient. The hernia was easily pushed back, and retained by slight pressure of the fingers of an assistant over the internal abdominal ring. He was ordered sulphuric ether and laudanum. After a few doses, vomiting ceased, reaction came on, and he expressed himself as feeling better, but stated that his "belly was burst, and he was certain he would die."

About six hours after the accident, being again called to see him, I found him in the same anxious and prostrated condition as at the previous visit, with much pain when he was moved, rigidity of the abdominal muscles and tenderness on pressure of the lower part of the abdomen. He said that he had been very thirsty and drank large quantities of iced water, although he had been warned not to do so, and had vomited freely. He complained of severe pain in the back and inability to move himself in the bed. There was no loss of power of motion or sensibility in the limbs. Tr. opii in combination with sulphuric ether was given him freely through the night, and he dozed a little and was tolerably free from pain.

August 15.—His condition was becoming rapidly worse, the anxious expression of countenance more marked, pulse 130, copious cold perspiration and greater tenderness of the abdomen, with slight tumidity and tympanitis. Dr. C. E. Isaacs, of Brooklyn, Consulting Physician of the Hospital, was called, and gave his opinion that there had been, most probably, rupture of the intestine at the time of the accident, and advised, for treatment, the use of opium. Two grains of opium were given him every three hours, and had the effect of allaying the severe pain, but without any amendment of the other symptoms. He continued to get worse, complained he could not see surrounding objects distinctly. As his end approached, he became slightly delirious, and died on the evening of the 16th, fifty-eight hours from the time he received the injury.

The autopsy was made eleven hours after death. Where the blow had taken effect in the groin, a slightly ecchymosed condition of the integument was perceptible about the middle of Poupart's ligament and extending from two to three inches above it. On opening the abdomen, there was found to be general peritonitis, the small intestines much distended with gas, glued together by recent exudation, and collections of pus between the folds of intestines. Immediately beneath the ecchymosed spot in the left inguinal region, the small intestine was adherent to the wall of the abdomen. At the point where adhesion had taken place, there was a transverse opening one inch in length through the intestine on the convex side, or the side opposite the insertion of the mesentery. The edges of the opening were swollen and everted, and had the appearance of a recent wound, and were unlike those of a perforation caused by ulceration. The point at which this rupture had taken place was ten feet from the cæcum. The mesentery opposite the opening, for about one inch, was swollen, dark and traversed by enlarged vessels. The large

intestine contained a considerable quantity of hardened fæces. The stomach was much distended, and in it were 3xxij of a brownish fluid. The mucous coat was of a dirty ash color, and around the cardiac orifice were patches of bright red spots of effused blood. With the exception of some congestion, or very slight pathological changes, all the other organs presented a healthy appearance.

It is difficult to understand how the intestine, if it were in the normal position, could have been injured so seriously by so slight a cause. If the man had had hernia previously to the accident, the solution of the difficulty would be much easier, for a blow falling suddenly on a knuckle of distended intestine in the inguinal canal might easily rupture it in the manner described. But the patient was intelligent, and was positive that he never had had any tumor in the groin or other symptoms of hernia. Could the resistance of the hardened fæces in the colon have had anything to do with the rupture?

Flatbush, N. Y., Aug. 20th, 1857.

A Case of Sciatica Cured with Strychnia. By O. C. GIBBS, M.D.,
Frewsburg, Chatauque county, N. Y.

The disease usually denominated Sciatica is often an extremely painful affection, and, what is worse, is notoriously obstinate of cure. The case we are about to relate, is interesting from the promptness with which it yielded to strychnine, after a failure of a great variety of other remedies.

March 6th, 1857, we were called to see Mr. H., aged about 45 years. He was laboring under extreme pain in one hip and leg. The pain was particularly severe between the great trochanter and the ischium, extending thence downward upon the outside and back of the thigh to about half way between the knee and ankle, where the pain was nearly as severe as in the hip. There was no swelling or redness of the affected parts. The patient was confined to the bed and could lie only upon the well side. The only relief he could get from this position was by turning upon his face and standing upon his hands and the knee of the well leg. With the exception of a slight billious tinge to the complexion and a little acceleration of the pulse, the general health was not materially affected. Slight pain and tenderness were constant, but severe pain occurred only in paroxysms.

The patient stated that he had a similar attack about three years since, which proved extremely obstinate, resisting all treatment for a

year-and-a-half, but finally passed gradually away while taking the tincture of colchicum and the ammoniated tincture of gum guaiac. At that time he was in the care of a very intelligent and skilful physician, my friend Dr. Axtell, now of Jamestown, N. Y.

He had been suffering from the present attack about two weeks, during the most of which time he had taking regularly the tincture of colchicum and the ammoniated tincture of gum guaiac. Looking upon the case as more neuralgic than rheumatic, we gave him a cathartic containing a small portion of calomel, and ordered it to be repeated every second day. We also ordered two grains of sulphate of quinine and one-fourth of a grain of sulphate of morphine, to be given every six hours. This prescription was continued for a week without benefit. We now ordered the subcarbonate of iron in half-drachm doses, extract belladonna in half-grain doses, and oil turpentine in doses of fifteen drops, each to be repeated every six hours. This prescription was continued for a week, also, without benefit. We now ordered the tincture of cimicifuga in drachm doses, the iodide of potassium in two grain doses, and the oil of turpentine was continued as before, each every six hours. This treatment was continued also for a week, apparently without benefit. We now ordered small doses of calomel with Dover's powders, also tincture of colchicum in appropriate doses; we also ordered blisters over the great trochanter, and at the seat of pain at the middle of the leg, the cuticle to be removed, after blistering, and sprinkled with morphine. It may not be amiss to state here, that we had not previously blistered because, in the previous attack, he had been blistered and cupped repeatedly without benefit. The calomel was continued until the system was slightly under its influence, when it was discontinued and the iodide of potassium substituted. This plan of treatment was continued for a week or ten days, without any improvement; in fact the patient seemed worse in general health, and the paroxysms of pain were more severe than when treatment was commenced. The patient became impatient and restless under treatment, and, for some time, had been in the habit of using opium at his or his wife's discretion, as the only means of procuring relief from pain.

We now took two grains of strychnia in crystals and put it with two ounces of water, slightly acidulating the water with sulphuric acid. We also took four grains of podophylline and five of sulphate of morphine, rubbing them up with sugar and dividing into twenty powders. We ordered thirty drops of the solution of strychnia, also one of the powders, to be taken each three times a day. The patient

had no severe paroxysms of pain after this, and within three weeks from the time of commencing the strychnia he went down the Alleghany and Ohio rivers as a pilot on a lumber raft, and up to the present time he remains free from a return of the affection.

We have no recollection of ever having seen strychnia recommended in this form of disease. The remedy was held under consideration quite early in the treatment, but failing to find authority for such administration, its use was postponed until repeated failures seemed to justify a trial of any remedy that theoretically promised benefit. It is, of course, uncertain whether the remedy in this case stands in relation to the cure as cause to effect. Subsequent observations can only establish this ; for one case, we are well aware, is nearly valueless in establishing the remedial powers of any article over any disease.

On Scarlatina. A Clinical Lecture delivered in Paris by M. TROUSSEAU. Translated from the *Gazette Hebdomadaire*, for the MONTHLY.

Scarlatina is, of all the exanthematous and contagious pyrexias, the most variable in its forms and characteristics. It is also the most variable in relation to the danger the patient undergoes. Variola, whether benignant, discrete malignant, or confluent, is still variola ; you can always recognize it by its special characteristics ; it always shows itself exteriorly by appearances which are proper to it, whether modified or not, as it so often is by vaccination or by a preceding variola. Scarlatina, on the contrary, may not appear, and frequently is not apparent upon the skin, yet is none the less severe on this account. Rougeola almost always preserves its characteristics, or very nearly so. Its diagnosis is ordinarily simple, almost always easy ; its complications generally foreseen, take place at a certain time, upon a certain day which the physician can foretell. Scarlatina, as we shall see, presents complications most usually unsuspected, which the physician cannot know beforehand, even at a period very near their appearance

This disease is sometimes so light, that one of the greatest observers of the past, Sydenham, said of it, in speaking of several epidemics he had seen : *Vix nomen morbi meretur*, it hardly deserves the name of disease. But Sydenham has given in his writings only the results of his personal experience, and as he had never seen it in its severe form, he treated scarlatina with that sort of disdain which he

was far from having for rougeola or variola. Now, those writers, whom it is proper for us to consult, tell us that for many years the cases of scarlatina they saw were so mild in character that they never saw any body die from it.

Graves, in his clinical lectures, states that in 1800, 1801, 1802, 1803, and 1804, scarlatina ran through Ireland and was very fatal ; that from 1804 to 1831, those physicians who had found it so very destructive during the years we have already cited, no longer witnessed a death from this affection, which had become singularly mild. In 1831, a new epidemic of severe scarlatina appeared in Dublin and vicinity, and in 1834 this disease spread over Ireland a sadder gloom than did the typhus a few years later, or the cholera two years before. When I commenced my medical studies at Tours, M. Bretonneau told us that scarlatina, which his masters had always spoken of as a severe disease, had at first appeared to him as a very mild disease. He said that from 1799 to 1822, at which time he made these remarks, he did not recollect to have seen a single person die from scarlatina, and he had practised for a long time in the country before he became physician-in-chief of the hospital at Tours. Since then he had seen numerous cases, both in hospital and private practice, and up to that time this exanthematous pyrexia was to him the mildest of all. But in 1824 an epidemic broke out in Tours and its vicinity. In less than two months M. Bretonneau saw the sick die off with such a startling rapidity, that, opposed as he was to the doctrines of Broussais, then in high estimation, he accused the treatment pursued by his confrères, who bled excessively (*à l'outrance*) in order to moderate the angina and the inflammatory fever at the commencement of the attack ; soon, coming himself in contact with the disease, he learned that he could not always strive against it with advantage, a considerable number of his patients succumbing. Then, he who before 1824 had treated scarlatina so lightly, learned to class it with the plague, with typhus and cholera.

For more than a quarter of a century, then, scarlatina reigned epidemically without presenting any gravity. Suddenly its character changes ; it strikes those whom it attacks most cruelly. It is not thus with rougeola, it is not thus with variola. Doubtless the epidemics of rougeola and variola are sometimes very severe, but they are never so generally light or severe as those of scarlatina. For scarlatina the epidemic type is more dominant than for the others, and according to the nature of this type the disease is extraordinarily simple or singularly severe.

What is the duration in scarlatina of the *period of incubation*? In an exanthematous fever, nothing is more difficult to fix when the virus is not directly inoculated, nor is there anything more variable than the manner in which this question has been decided. For scarlatina, some say that the incubation continues four days; others eight, and others again fifteen, twenty, and thirty days. In a word, only hypothetical data have been given, because those who made them would not see that no certainty was possible unless a precise date of the commencement of the incubation was assigned. But one pyrexia only can furnish us this precise time, variola, because it is inoculable, and since this inoculation has been performed for a half a century and very extensively throughout Europe. We have been able to ascertain positively the time which intervenes between the moment when the virus is introduced under the skin and the manifestation of the disease. In this manner the duration of the incubation of variola has been fixed. It is not so with the other exanthemata, which have not been inoculated, and which perhaps are not inoculable. For then, in default of inoculation, the moment the individual was placed in contact with another person affected, is taken as the point of departure for the incubation; but contact and incubation are two different things. For example, five hundred sheep are placed together in the same park, or in the same sheepfold, one of them takes the rot, an eruptive disease in animals, analagous to variola in man. Fifteen or twenty days later seven or eight more sheep are taken, and each day successively a few fall sick; four months would have to pass before the last would be attacked. Yet all these animals, shut up in the same place, breathing a confined air, pressed against each other and wet by pus from the sick, were not taken at the same time; some were attacked sooner, others later. Would you conclude from this that the duration of the incubation was longer in some than in others? Not at all, for inoculation performed the same day in all, the disease would also show itself the same day in all without exception. Contact and inoculation, then, are essentially two different things. By inoculation the virus is necessarily introduced into the economy; by mediate or immediate contact, the absorption of the virus does not always take place. When this absorption once takes place, the *evolution* of the disease takes place in a certain determined time, the same, within a few hours, or a few days, in all.

Well, that day when scarlatina shall be inoculated, the duration of the period of incubation will be fixed for it, as has been done for variola, until then it is impossible to determine it. In a family

composed of ten persons, five weeks will sometimes elapse before all will be taken. It will be the same with them as with the sheep of which I have just spoken. It does not result from the fact that they have not come in contact, but that they have been in different conditions to be effected by it. It is the same as with syphilis. The syphilitic virus methodically inoculated produces after a certain number of days the evolution of a specific vesicle, and this number of days is very nearly known. Several persons may have connection with a diseased woman, some would take the disease immediately, while others having relation with her several days in succession, would become diseased only the last day. This happens from the fact that the first were in physiological or pathological conditions such that from the first contact the virus was inoculated, while the second were not in this condition till later.

Finally, gentlemen, the period of incubation in scarlatina, that is to say, that period comprised between the precise time of the inoculation of the scarlatinous virus, and the precise period of the first manifestations of the disease, that period in scarlatina, cannot be rigorously determined. The same remarks are applicable to rougeola, they also apply to variola when it is not directly inoculated.

In scarlatina the period of invasion is also undetermined. You know how it occurred in variola, and you can affirm that in regular cases of small pox, when you see the eruption appear forty-eight hours after the commencement of the invasion, the variola will be confluent, because it is at the end of the second day, or at the commencement of the third that the pustules appear in this form of the disease; if the pustules appear about the fourth day, you will diagnose a discrete small-pox. Seldom is the eruption of the confluent variety put off till the fourth day; seldom does that of the discrete form appear as soon as the second day. These characteristics of variola which are almost positive, give you the ability of immediately saying whether the disease will be severe or mild. Let me be well understood, I speak only of regular variola, and not of modified small-pox or varioloid, the characteristics of which are not the same.

In scarlatina the progress is different. In some patients the eruption appears during the first four or five hours of the fever of invasion, rarely later than the first day. It is still rarer, except under complications, that it is deferred to the second day, and for the same reason it is still rarer that it appears only until the third day. Although a few physicians believe that they have observed this appear-

ance as late as the third day, I repeat it, that this fact is extremely rare. I do not deny its possibility in an absolute manner, according to my belief, however, it is because the attention of the patients was not called to it, or because it was not sought for in a great number of cases. In general, it is upon the face that we first look for the febrile exanthemata, because it is there that it first shows itself. It is so for rougeola and variola, but it is not so for scarlatina. In this disease it is more particularly upon the body, upon the fore arm, upon the belly, or in the folds of the thighs that the eruption first appears, so that it can exist twenty-four to thirty-six hours before it makes its appearance upon the face or neck. We may think that it only commenced then, when in reality it had existed some time. But when we are informed of the progress of the disease, this error is easily avoided. In fact the period of invasion in scarlatina is extremely short.

The *phenomena which characterize it* are ordinarily a high fever with or without a previous chill, most frequently this chill is absent. The frequency of the pulse is considerable, more so than in the other febrile exanthemata. This fact is important, for in studying scarlatina in its elements, in speaking of scarlatina without eruption we shall see that under a good number of circumstances we shall make out our diagnosis of this disease by the single consideration of this extreme frequency of pulse, which is not found in the other affections which may be confounded with scarlatina in part *effaced*, if I can make use of this expression. To this fever is added cephalalgia, a general *malaise*, anorexia, vomitings, diarrhœa, oftentimes very abundant. Almost always from the moment that the fever appears, the soreness of the throat also appears, so that from the commencement of the affection, before many hours have passed, the patient complains of pain in that region, he speaks of it as the most prominent symptom of all he feels, and it is to that he calls your attention. This phenomenon is a very important one to be studied, because we may be deceived by it, for this angina may be mistaken for a simple angina, and an improper treatment be adopted, or at least one insufficient for a malignant scarlatinous angina. The tongue presents the first day nothing particular, it is feverish—that is to say, covered with a fur a little slimy, slightly red at the point, and upon the edges, but upon the palate a deeper red is observable and in some cases already presenting a dotted appearance. This redness is very marked upon the tonsils, which are slightly swollen. This redness, this dotted appearance of the veil of the palate, of the

tonsils without marked tumefaction, accompanied with severe pain and intense fever, should put you on your guard, especially when an epidemic of scarlatina prevails, and should cause you to suspect a scarlatinous angina.

When scarlatina is malignant, the symptoms take another form. The frequency of the pulse is still greater, reaching as high the first day in the adult as 130, 140, 150, 160 pulsations, even before the eruption has appeared upon the skin. At the same time the nervous system becomes affected, showing itself by a great agitation, or by a sleeplessness which nothing can overcome, almost always by a sub-delirium when the patient is left to himself. These are symptoms very rare in simple sore throats, very rare also in the commencement of other febrile diseases. From the first day, from the first hours, malignant scarlatina announces itself with all its malignancy, and this malignancy may be such that the patient succumbs before twenty-four hours pass.

I was called by my friend, Dr. Bigelow, to see a young American girl in a school in Paris. She had been affected since morning by an alarming delirium, she had an intense fever, and incessant vomitings; the pulse was so frequent that it could not be counted, the skin was remarkably dry. These phenomena caused me to say, when we reached the bedside of the patient, that it was scarlatina, and in fact, although nothing else demonstrated its existence, my diagnosis was confirmed by the presence of the characteristic eruption upon another young girl of the same school, where an epidemic of scarlatina prevailed. Our patient died before the end of the day.

In 1824, at the commencement of that disastrous epidemic which broke out in Tours, of which I have spoken, we saw, with M. Bretonneau, a young woman die in less than eleven hours, with terrible symptoms, delirium, excessive agitation, extraordinary frequency of pulse, and nothing indicated scarlatina to us, excepting that we were in the midst of an epidemic, and that many persons in the family of this young woman had had it.

Beware then, when in the midst of an epidemic of scarlatina, when especially persons around a patient to whom you have been called have already been attacked by it; beware of those nervous symptoms which show themselves thus at the commencement of disease. Almost always they announce a malignant scarlatina, and this almost always kills with an astonishing rapidity.

I dwell upon this point because it can give rise to the most serious errors in diagnosis; because it can give rise to faults in prognosis,

most serious to the reputation of a physician. Do not forget these precepts, and when you find yourself in presence of the symptoms of which I speak, be reserved, for these symptoms may terminate rapidly in death ; they seldom show themselves so severe in rougeola, and never in variola.

In scarlatina, then, there is an uncertain period of incubation, a very short period of invasion, after which comes *the eruption*. This new period has a duration not as clearly determined as it is in rougeola, and especially as it is in variola, in which it is so easy to calculate it. Commencing from the first day of the disease, the eruption of scarlatina is sometimes apparent the twelfth and the fourteenth day, although ordinarily it begins to disappear towards the eighth. In the simplest cases it continues from five to eight days. What are its characteristics? When you consult your books, it would seem from them that a physician should not hesitate in making out his diagnosis. Rougeola, says one, consists in an eruption of small, isolated spots, of irregular form, leaving between them intervals of white skin. Variola is recognized by its small acuminate papulæ, becoming vesicular the second day, pustular the third, pointing and becoming surrounded about the eighth day with an inflammatory areola. All these facts are very simple, and these characteristics so well designated, that they should not be mistaken. As to scarlatina, its characteristics are still better marked ; a diffuse, wine-like coloration. The descriptions are far from giving exactly that which exists in all cases. You see, in fact, cases of rougeola, and I have shown you some of them, which present an eruption, diffuse, uniform, without red spots, isolated by intervals of white ones. In truth, this form of the eruption is not the rule, but it does exist.

In contradiction to this you will meet with cases of discrete scarlatina, and even cases of confluent scarlatina, in which the eruption will be, in certain points, composed of red spots, and still better, by small, rounded, red points, perfectly isolated from each other, not having the wine-like, the raspberry color which has been attributed to it. It differs, however, from the eruption of rougeola, yet may sometimes be confounded with it.

What also distinguishes scarlatina, is the presence of a miliary eruption, which very often accompanies the redness of the skin, and which is met almost invariably when the scarlatina is very slightly confluent. It appears upon the sides of the neck, upon the chest, upon the bowels. It is known without seeing it. By passing the hand over these parts, small elevations are felt, which give the same

impression as goose flesh. Searching for them, then, a multitude of small vesicules will be perceived, which, after thirty-six or forty-eight hours, are filled with a lactescent fluid.

As to the eruption of scarlatina itself, it is not really of an uniform tint, like erysipelas, but of an infinite series of little elevations of the skin, resembling an extremely fine eczema. They are recognized by the touch, and by the magnifying glass this disposition is very evident.

The redness exists, at its greatest intensity, upon the neck, upon the chest, upon the bowels, and the internal surface of the arms and thighs. It appears about the same time everywhere, although it is most frequently seen upon the neck and chest, before it shows itself upon the countenance. Upon the face it has not the same characteristics as upon the body. Of a speckled appearance, of a deep red in some points, adjoining white spots, the skin of the face seems as though it bore marks of the fingers, with which it had been severely struck. At the same time it is swollen, and this puffiness is also observable in the hands and feet. It takes place the instant that the eruption appears, increases with it, and is consequently more marked the second or third day. In the hands it interferes with the movement of the fingers, which the patient can fold only with difficulty, and it can easily be proved to the sight. Progressing with the eruption, it usually disappears with it, as well from the face as from the extremities. It remains for a while at the angle of the jaws, upon the neck, and these regions are painful to the touch.

Examining the throat of the patient, a deep color and tumefaction of the veil of the palate, and of the tonsils, is seen ; very often these present small whitish concretions, the first manifestation of the membranous angina of scarlatina, upon which I shall have to dwell.

The appearance of the *tongue* is such, so specific, that by it alone the disease can be distinguished. Neither in rougeola nor in variola, will you find that appearance which the tongue takes in scarlatina, a characteristic as special in this exanthematous fever, as is the variolous eruption of the mouth in variola. The first day the tongue offers nothing special, other than the more or less thick slimy fur, more or less white, of a yellow or greenish color when the patient has vomited ; nothing more than the slight redness of the point and edges, of which we have already spoken. The next day this redness increases in intensity and extent ; it increases the third day even, and towards the fourth or fifth day the thick fur has more or less completely disappeared ; the whole tongue is of a bright red color, tumefied, pre-

senting a considerable elevation of the papillæ, which gives to it an appearance analogous to that of a strawberry. It is deprived of its epithelium, and in some cases you can assist this work of desquamation, you can even hasten it, by rubbing the tongue with a piece of cloth. This is an invariable phenomenon in scarlatina, at least when the affection has not been marked by any febrile phenomenon. There is nothing analogous to this in rougeola, nor in variola, even when this is accompanied by stomatitis. Towards the seventh or eighth day, still preserving its red color, the tongue becomes smoother, and towards the eighth or ninth day the epithelium is renewed in a very apparent manner, at first excessively thin, but towards the twelfth day it has nearly regained its natural thickness; but the mucous membrane remains a little redder than in the normal condition.

The phenomena which attract our attention the most in scarlatina, are the *nervous symptoms*. It is proper to say that their intensity in this disease is so special, that they alone, in a great many cases, will suffice to separate it from any other exanthematous fever. Never, or very seldom, at least, is rougeola announced by any severe cerebral symptoms, with the exception of eclampsia; and as in fact it is only in this respect that any possible confusion can be made between rougeola and scarlatina, the intensity of these symptoms alone establishes a capital difference between these two diseases.

They are present from the beginning; from the first day they exhibit themselves by *delirium*. This is not the case in mild scarlatina, but in its severe form it is seldom absent. When the disease is serious, it is as well marked as in the most severe typhoid fevers; it appears with the eruption, persists until the period of desquamation, or more correctly speaking, until the fever falls.

Delirium is not the only manifestation of nervous disorders; they are also shown by *carphologia*, *jactitation*, *coma*, and in some cases by *coma vigil*; in a word, all the forms of typhoid nervous symptoms are met with.

In infants it is not uncommon to witness *attacks of eclampsia* in the first two or three days of the disease. The convulsions have, however, a very different character, as regards their seriousness, than have the initial convulsions of rougeola and variola; for while those of variola are considered by certain authors, Sydenham among others (whose opinion I do not partake), as being of a favorable augury,—while the initial eclampsia in rougeola is generally regarded as a symptom of very slight value,—the attacks of eclampsia occurring the first or second day in scarlatina are, upon the contrary, of great

gravity. This gravity is still greater if they arise in the third period of the disease, when there is general œdema ; we shall have again to speak of its signification ; we shall have to say that then the convulsions are often fatal symptoms.

Even in adults examples are not wanting. Epileptiform symptoms appear the second or third day of the scarlatina, in those persons particularly who have been subject to attacks of epilepsy these initial convulsions are repeated, coma succeeds, and death comes in the first twenty-four hours after their appearance.

There is still another marked nervous phenomenon of a very bad prognostic. I speak of dyspnœa, which is, however, not attributed to any material lesion of the lung, a dyspnœa which is met with its mournful signification in a great number of septic diseases, in puerperal typhus, the typhus of camps, in cholera, &c., dyspnœa which you have been able to witness in that woman recently delivered, who was so suddenly carried off by scarlatina.

Independently of these disorders inherent to the disturbances of cerebral and spinal innervation, there are others which are allied to *perturbations sustained by the ganglionic system*, and which I shall point out to you.

You, doubtless, are acquainted with the wonderful works of M. Claude Bernard, upon the section of the ganglionic nerves ; you know that this section produces in the parts to which the filaments of nerves are distributed, not a paralysis, but, on the contrary, an exaggeration of certain functions, particularly of calorification and of secretion. The learned Professor of the College of France has shown you how, by cutting the sympathetic filaments which go to the ear and face of the rabbit, an elevation of temperature is produced in these parts, which may rise from 4 to 5 degrees higher than the normal temperature ; he has shown you that by cutting the ganglionic nerves of the coronary plexus, considerable hypersecretion of the gastric mucous membrane results. From these experiments you will draw the conclusion, that each time that calorificity is increased in an animal, there will be reason to infer some disturbance in the ganglionic nervous system, rather than in the functions of the cerebro-spinal system. But there is certainly no disease which is accompanied by a *general elevation of temperature* as high as scarlatina. In those affected with scarlatina, in fact, the thermometer introduced into the rectum, or placed in the armpit, has marked 40 to 41 degrees centigrade. This elevation of temperature can only be explained by the disturbances in the ganglionic innervation, which are also shown in other func-

tions, under the subjection of the grand sympathetic, as the incessant *bilious vomitings* which persist in some persons four, five, and six days, and the *abundant intractable diarrhœas*. Graves had pointed out this polycholie in scarlatina independent of any phlegmasia.

The non-inflammatory nature of these symptoms it is important to note. If, in fact, impressed with the idea of inflammation, which the heat of the skin seems to indicate, you endeavor to combat the diarrhœa and the vomitings by antiphlogistics, you will adopt the worst medication, in fact the most perilous treatment that can be adopted for scarlatina, for of all the eruptive fevers, scarlatina is the last one which requires this kind of treatment, seldom beneficial in rougeola or variola.

Besides the nervous symptoms which I have just indicated, others arise, sometimes at the commencement, rarely, it is true, at this period; these are hæmorrhages—hæmorrhages from the mucous membrane, subcutaneous hæmorrhages, renal hæmorrhages. These hæmorrhages belong, however, rather to the third period of the disease, and we shall see that in its declination hæmaturia in particular, coincides frequently with the anasarca of scarlatina, of which I shall have to speak.

In studying the relation existing between the severity of the disease and the intensity of the eruption, it will be seen that certain authors have committed a great fault in this respect, and the greater because they may lead into error those physicians who are not familiar with scarlatina. They say, in fact, that when the eruption is well developed, very bright, or, to use a vulgar expression, *well out*, the patient runs fewer chances of having any serious symptoms. Well, it should be said of scarlatina what is said of variola, its severity is in direct ratio with the intensity of the eruption. In a discrete scarlatina the danger is ordinarily less than in confluent scarlatina, as in a discrete variola there is less to fear than in a confluent variola. In both of these exanthemata, the more intense the eruption, the more serious the symptoms and the greater the danger. Such are the facts established by observation during the course of epidemics.

Scarlatina, I have insisted, does not even resemble itself; identical, be it understood, in its essence, it is not so in its forms. In some cases, after ten to twelve hours of fever, an insignificant eruption appears upon the neck and body, and two or three days afterwards this eruption and the fever which attended it have disappeared, the patient has hardly felt sick, desquamation goes on, it takes place by little bands, then after five to six days the disease is cured, and if

the patient does not expose himself to cold, or commit any imprudence, it passes entirely off. The disease has been so *simple*, that in certain families it passes unnoticed.

Between this mild form and that more severe form, the outlines of which I have already traced for you, there are intermediate forms. Malignant scarlatina, I have told you, becomes a terrible scourge, equal to the most fearful pestilential diseases.

I now come to speak of a few particular symptoms of scarlatina, which I have indicated *en passant*, and which it is necessary I should dwell upon more in detail.

And first, of the *angina of scarlatina*.

[To be continued next month.]

REVIEWS AND BIBLIOGRAPHY.

The Medical Profession in Ancient Times: An Anniversary Discourse delivered before the New York Academy of Medicine, November 7, 1857. By JOHN WATSON, M.D., Surgeon to the New York Hospital. Published by order of the Academy. 8vo. pp. 222.

We desire to acknowledge our indebtedness to the author for a copy of this work. As its title indicates, a synopsis of it was read before the Academy of Medicine of this city, as an anniversary discourse, but it partakes more of the character of a history of Medicine than of an oration. It has been wrought out quietly, in the silence of the study, with no effort at oratorical display, or with the design of catching the breath of popular applause. It is, in short, an earnest contribution to the history of medicine, and, it may be added, is a most valuable one. We hail its appearance with especial pleasure, because instances are too rare among us of devotion to this branch of knowledge, and because it will call the attention of some to the studies of the Fathers in Medicine (many of them older than the Fathers of the Church), and to the good things which are contained in their writings. Dr. Watson's style is clear, and he seems to take great pains to avoid all superfluity of words. Sometimes his desire to condense produces a little obscurity, but it is not often the case. We propose to select some of the good things of the volume, in the expectation that the taste thus afforded will induce our readers to place it in their libraries.

Æsculapius and his followers are thus spoken of :—

But notwithstanding the speculations of the philosophers, and the

trainings of the *Palestræ*, the Temples of *Æsculapius* were the first great foundations of medical knowledge among the Greeks.

These Temples were numerous dispersed throughout the Grecian states and colonies, as at Titane, Epidaurus, Cyrene, Rhodes, Oropo in Attica, Cylene in Ellis, Tithorea in Phocion, Tricca in Thessaly, Megalapolis in Arcadia, Cnidos, Cos, Corona, Pergamus, Corinth, Smyrna, and numerous other places. Here were originally the homes of the *Asclepiadæ*, the schools in which they trained their offspring; and hither the suffering and afflicted resorted for consolation and relief.

The priests of *Æsculapius* were in the habit of turning to good account the opportunities at their command within the temples. The institution of the votive tablets on which were inscribed the history of the cases which had been relieved by them, indicates plainly that the idea of collecting the information thus recorded, and deducing therefrom a systematic code of practice, must have been contemplated by the descendants of *Æsculapius* at an early day.

These temples, or *Asclepions*, long before medicine began to assume a scientific character, had served as schools of instruction, and as asylums for the sick. They furnished the nucleus from which, in process of time, were developed other institutions and organizations. As schools, the most ancient of them is said to have been at Titane, near Sicyon. Those of Rhodes and Epidaurus, were of early repute. But the school of Cnidos is that from which issued the earliest literary performance which can be clearly traced to the *Asclepiadæ*, namely, the "*Cnidian Sentences*;" which are attributed to Euryphon, the contemporary of Hippocrates, though somewhat his senior. As asylums, the temples bore no inapt resemblance to the hospitals and infirmaries of modern times; into which, in fact, some of them were ultimately converted. The temples of Epidaurus, Cos, Tricca, according to Strabo, were always filled with patients; and along their walls the tablets were suspended, upon which were recorded the history and treatment of the individual cases of disease.

The choice of situation, and internal management of the temples, show with what care the priests of *Æsculapius*, while observing the rites of his religion, provided for the well-being of the sick. They usually occupied some elevated or retired and healthy locality, not far removed from the cities, surrounded by shady groves, or in the neighborhood of thermal springs, or fountains of medicated water. They were sacred from intrusion, and accessible to the sick only after suitable preparation. The invalid, on his arrival, submitted to purification, by fasting, ablution, and inunction. He afterwards passed the night within the *Hicetas* or common hall of the temple. During the ceremony of incubation, the presiding deity is supposed to appear before him in the silence of the night, and, by voice or otherwise, announce to him the means of cure; which, on the following day, the priest in attendance also ascertained, and afterwards undertook the supervision of the treatment.

The fees of these priests were the free-will offerings of the sick. It

was consequently to the interest of the priests to cherish the superstitions of the people. Their devices for this purpose, Aristophanes has humorously portrayed in his comedy of *Plutus* :—

“ Having bathed *Plutus* in the sea,” says the servant *Cario*, “ we went to the temple of *Æsculapius* ; and when our wafers and preparatory sacrifices were offered on the altar, and our cakes on the flame of *Vulcan*, we laid him on a couch, as was proper, and made ready our own mattresses. . . . When the priests had extinguished the lights, he told us to go to sleep, adding that if any of us heard the hissing we should by no means stir. We therefore all remained in bed, and made no noise. As for myself, I could not sleep, on account of the odor of a basin of savory porridge which an old woman had at the side of her bed, and which I longed for amazingly. Being, therefore, anxious to creep near it, I raised my head, and saw the sacristan take the cakes and dried figs from the sacred table, and going the round of the altars, put all that he could find into a bag. It occurred to me that it would be meritorious in me to follow his example, so I arose to secure the basin of porridge, . . . fearing only that the priest might get at it before me, with his garlands on. . . . The old woman, on hearing me, stretched forth her hand. But I hissed, and seized her fingers with my teeth, as if I were an *Æsculapian* snake ; then, drawing back her hand again, she lay down and wrapped herself up quickly. . . . while I swallowed the porridge, and, when full, retired to rest.”

The serpent to which Aristophanes here refers, was the usual emblem of the presiding Numen, or divinity of the temple ; though other animals, as the cock and the dog, were occasionally employed for the same purpose. The figure of the serpent sculptured in stone, met the eye of the devotee at the entrance of the temple ; and the animal itself was cherished and preserved within the sacred precincts. The *Æsculapian* serpent, according to Pausanias, was of a peculiar variety, of a yellowish or brown color, and found only at *Epidaurus*. At the founding of new temples, it was always transferred from the old to the new abodes. Such was the ceremony, as we learn from *Livy*, when, in the year of Rome, 461, for arresting the progress of pestilence in that city, commissioners were sent to transfer the sacred serpent from *Epidaurus* to the Island of the *Tiber*, where the first temple to *Æsculapius* was erected among the Romans.

Æsculapius himself was usually represented as a bearded and aged man ; sometimes bare-headed, sometimes crowned ; seated, standing erect, or leaning on his staff, around which the serpent is seen winding in spiral folds ; occasionally he is bearing a strobile of the pine ; sometimes he is seen alone, but more frequently accompanied by one of his daughters, usually *Hygeia*, who is robed in white, with a serpent in one of her hands and a shallow patella or cup in the other, to which the serpent is directing its attention. Not unfrequently between the figures of *Æsculapius* and *Hygeia*, a child is seen standing, the infant *Telephorus* or the *Harpocrates* of the Egyptians ;

and the cock is usually seen at the feet of *Æsculapius*. By the serpent, the *Asclepiadæ* are supposed to have symbolized circumspection and vigilance, and as Schulze supposes, the power of rejuvenescence ; by the cock, their bird of sacrifice, they are thought also to have represented vigilance ; and by the dog, fidelity and honesty. The *Ægyptian* symbols of *Serapis*, or of *Isis* and *Osiris*, and the infant *Harpocrates*, were occasionally associated with the emblems more properly belonging to the Greeks—a custom adopted after the settlement of *Alexandria*. For it was a belief among the *Ægyptians*, that infants had at times the power of divination ; and in the sacred ceremonies of their temples, the sports and gambols of young children were often introduced. But in the temples of *Isis* and *Osiris* the genius of medicine was sometimes also represented by the figure of *Silence*. “*Et quoniam vero in omnibus templis ubi colebantur Isis et Serapis erat etiam simulacrum quod, digito labiis impresso, admovere videretur ut silentium fieret ; hoc significere, ut homines illos fuisse taceretur.*”

The *Asclepions*, however, were not the only temples to which the Greeks resorted for relief from sickness. The temples of *Apollo*, and of the other gods, were also open to them, but only as places for consulting the gods ; not, as at the *Asclepions*, to be subjected to treatment.

This is the conclusion at which *Dr. Watson* arrives concerning the *Asclepiadæ* :—

With respect, then, to the policy and ethics of the *Asclepiadæ*, we learn from the Oath and Law, as also from other passages in the *Hippocratic code*, that the student was formally bound to his master by indentures ; that the son of a former master, choosing to enter the profession, received his education gratuitously ; that others not thus circumstanced, were expected to pay for their instruction ; that the sons of the *Asclepiadæ* did not necessarily follow their fathers' employment ; that those who were employed in the temples, or in practice elsewhere, were, therefore, simply a fraternity, in the modern acceptation of that word, and not, as some suppose, an exclusive caste derived from one family ; that each practitioner was at liberty to follow his occupation where and when he chose, but for honorable purposes only ; and that even at this early day, there were designing men who were “*physicians only in name,*” and who gave themselves up to disreputable practices ; against whom the regularly initiated had no redress, and no other advantage than that upon which we ourselves rely, a superior education, honesty of purpose, devotion to their duties, and the confidence of a discerning public.

In the time of *Hippocrates* (about 400 B. C.), there were two rival medical schools, that of *Cos* and that of *Cnidos*. *Hippocrates* was at the head of the former, and hence derives his title of the

Sage of Cos. The differences of the two schools are thus sketched, and are as marked as the differences in schools in our day :—

The modes of contemplating disease in the two schools, were not alike. The Cnidians attended mainly to minute distinctions, to the characteristic traits of individual diseases, with little regard to the bearing or mutual relations of special symptoms. Thus they enumerated seven different diseases of the biliary organs, twelve of the bladder, and four of the kidneys ; they described four kinds of strangury, three kinds of tetanus, four of jaundice, and three of phthisis. Their neighbors of Cos, on the other hand, held the study of such distinctions to be of small account, and gave their special attention to the grouping of important symptoms,—to what would now be called the constitutional condition, or the state of the system,—without regard to the particular disease, but mainly with reference to the prognosis and indications of treatment.

In the management of acute diseases the Cnidians employed numerous remedies, and in other affections, few. The school of Cos, though at times more heroic, especially in the use of the lancet and active purgatives, were in the habit of managing acute diseases by a restricted regimen ; barley-water more or less diluted, hydromel, and oxymel, being among their most frequent prescriptions. In the management of chronic diseases, they favored the medical gymnastics of Herodicus ; whilst at Cnidos these diseases were managed principally by laxatives, and a diet of milk, or of milk and water.

One of the chief professors in the medical school of Alexandria is described in the following paragraph, which presents some points of interest :—

Erasistratus was a native of the Isle of Chios. He had pursued philosophy under Theophrastus, and medicine under Chrysippus ; and before coming to Alexandria, had distinguished himself by discovering the secret ailment of young Antiochus, son of Seleucus, from observing the acceleration of the patient's pulse during the presence of Stratinice, of whom he was enamored. Like his associate, Erasistratus wrote extensively, and made discoveries in anatomy and physiology. He was familiar with the general distribution of the blood-vessels. He described the anatomical structure of the heart, and like Aristotle, made this organ the source both of the veins and the arteries. He held also, in common with Aristotle, that the arteries in health are filled with pnuema, or air, which they receive from the atmosphere in the process of respiration, and that the passage of blood into them from the veins, is the usual cause of disease. He was familiar with the functions of the nerves ; and as we are told by Ruffus, he divided them into nerves of motion and nerves of sensation. He was acquainted with the use of the catheter, and was probably the inventor of that instrument. He paid no regard to the Hippocratic doctrine of the humors, or of the four elements. He attributed all fevers to inflammation. The inflamma-

tion leading to dropsy, he placed in the liver and spleen. The animal spirits he seated in the brain ; the vital, in the heart. He rejected venesection, the use of drastic purgatives, and most other active medicines ; he treated diseases almost exclusively by diet and regimen, and was among the first to systematize gymnastics, or what would now be called hygiene, as a department of the healing art. Galen speaks of him as an accomplished anatomist, but charges him with want of skill as a physician. After commencing his anatomical and physiological researches, he may have been too much involved in these to attend to the minute details of practice. He held medicine to be a conjectural science. He was opposed to the sage of Cos on many points ; was said to have been envious of his reputation, and to have mentioned him as rarely as possible in his writings.

Another quotation concerning this school, and we pass to the Romans :—

The business of teaching at Alexandria, was never wholly confined to the professors. In medicine, as in other departments of science, there were independent instructors. Beyond the schools, the student of medicine appears to have had access to the temple of Serapis, which served in part as an asylum and place of refuge for the sick, and was used as such in the same way as the Asclepions in other parts of Greece. Nor were the devices of the priests here less politic than at the more ancient temples of Æsculapius.

As Vespasian was one day walking through the streets 'of Alexandria, a man with a diseased eye threw himself at his feet, begging to be cured, and declaring he had been told by Serapis that his sight would be restored if the emperor would but spit upon his eyelids. Soon afterwards another who had lost the use of his hand, preferred the same petition ; having been told by Serapis that the emperor might heal him by trampling him under his feet. Vespasian at first laughed at their importunity ; but so far yielded to their wishes as to consult the medical faculty. The physicians, like skilful courtiers, deemed the cure by the means proposed, not impossible. The experiment was attempted before an assembled multitude. It was probably as successful as the royal touch of the kings of England and France in later times ; and the flatterers of the Emperor declared that he had healed the maimed, and restored the blind to sight.

But the brightest era of medical science at Alexandria, thus far, was the earliest. Under the first associates of the Museum, anatomy and physiology were cultivated with spirit and success ; and from the turn given to medical education by these teachers, the character of the school for ages afterwards was definitely determined. The Asclepiadæ of Cos and Cnidos had dwelt upon the phenomena of disease without attempting to demonstrate its structural relations ; like the sculptors of their own age, they studied the changing expression of vital action almost wholly from an external point of view. They meddled not with the dead. For, by their own laws, no one was allowed to die within the temple. But the early Alexan-

drians were subject to no such restrictions ; and turning to good account the discoveries of Aristotle in natural history and comparative anatomy, they undertook for the first time to describe the organization of the human frame from actual dissections ; and by applying the knowledge thus acquired to the pathological studies of their predecessors, they struck upon the course which, if followed out by their immediate successors, might have led to many early and brilliant improvements.

But their successors were slow in discovering the road that had been opened to them. Occupied in teaching what had already been surmised or ascertained, few of them were ambitious of adding much to the general stock of knowledge. The dissection of the human body was soon abandoned, and the improvements in pharmacy and additions to the *materia medica* introduced by them, were as much due to the commercial intercourse of Alexandria with India and Southern Asia, as to the scientific enterprise of its physicians. So that medicine, losing the independent and progressive character which it had received at the hands of Hippocrates and his early followers, was again reduced to a mere department of speculative philosophy, involved in futile disputations, and in formulas based on no substantial facts. Hence the several sects into which the profession in course of time became divided.

Of the Roman school we have space only for the two men best known as its representatives—Celsus and Galen. Of others, Dr. Watson gives many interesting sketches, but our limits, already transgressed, only suffer us to speak of these. Of Celsus, we have this :—

Aulus Cornelius Celsus, justly styled the Latin Hippocrates, was the junior contemporary of Themison, and so far as we are aware, the earliest medical writer of unequivocal Roman birth. Of his own personal history little is known. Quintilian attributes to him a treatise upon Rhetoric, and gives honorable testimony to the extent of his learning. His contemporary Columella, who often quotes from his work on agriculture, with great deference to his authority, equals him to the ablest writers on husbandry, and speaks of him as one not only skilled in agriculture, but who had familiarized himself with the whole compass of natural knowledge. His treatise on Medicine, in eight books, is all that now remains of his writings. According to the best critics, this work must have been written towards the close of the reign of Augustus, or, at latest, at the beginning of the reign of Tiberius. Celsus, more than any other of the ancient Latin physicians, is celebrated for the purity and elegance of his style, and for a concise and judicious manner of handling his subject. The summary history of medical doctrines, of the *materia medica*, and of surgery, introduced at the commencement of his first, fifth, and seventh books, shows how carefully he had studied the great masters of the art, and how well he was prepared to furnish a thorough and reliable digest of their opinions ; not

indeed as a compiler of minute details, but as one able to grasp the philosophy of medicine, and at the same time not to overlook any facts essential to the guidance of the practitioner. While citing many authors, he holds Hippocrates, and next to him Asclepiades, in chief regard. In judgment he is too independent to acquiesce in all that had been advanced by either of these. He rejects the Hippocratic doctrine of critical days, and he differs from Asclepiades in many points ; but whilst dissenting from those whose authority he usually respects, he gives sufficient reason for his own opinions. The delicacy of his censure in condemning others, and the caution with which he avoids all allusion to himself, have led some to the belief that he was not a practitioner of medicine. But, as his translator Dr. Grieve, has well remarked, his forms of expression are those of a practitioner, and such as would come very improperly from a mere compiler. To the careful student of his works, it must appear incredible that a production so replete with practical suggestions, and so remarkable for medical discernment, could have been the work of any other than an accomplished and skilful physician. He may not indeed, like the Greeks of Rome, have practiced for a livelihood. "The man to be trusted," he tells us, "is he who knows his profession, and is not much absent from his patient. But they who practice only from views of gain . . . readily fall in with such rules as do not require close attention. . . . It is easy for such as seldom see the patient to count the days and paroxysms ; but for him who would form a true judgment of what is alone fit to be done, it will be necessary to sit by his patient. The inference to be derived from this passage, as well as from his literary habits and polished style, is that he may have been in easy circumstances, above the necessity of practicing for the sake of gain, and that he followed his profession as a liberal and useful occupation, as law had originally been followed by the patricians and other men of influence at Rome ; who, even in the days of Cicero, would have considered it disgraceful to accept a fee from the client in whose behalf they were officiating as advocates at the forum. . . .

Before leaving this able author, we may notice his opinion of what a surgeon should be, and of what surgery should embrace. "Surgery, the third part of medicine," says he, "does not discard medicines and proper regimen ; but yet the principal part is accomplished by the hand, and the effect of this is the most evident of all the parts of medicine. For, as fortune contributes a good deal to the cure of distempers, and the same things are often salutary, often fruitless ; it may be doubted whether the recovery be owing to physic or the constitution. . . . But in surgery, it is manifest that the success, though it may be somewhat promoted by other means, is chiefly to be ascribed to this." "A surgeon," he continues, "ought to be young, or at most, but middle-aged ; to have a strong and steady hand, never subject to tremble, and to be no less dexterous with his left than his right hand ; to have a quick and clear sight ; to be bold, and so far void of pity that he may have only in

view the cure of him whom he has taken in hand, and not in compassion to his cries either make more haste than the case requires, or cut less than is necessary ; but do all as if he were not moved by the shrieks of the patient." And then, as to the province of surgery, "it may be asked what peculiarly belongs to to this branch, because surgeons assume to themselves the curing of many wounds and ulcers which I have treated of elsewhere, I can very well suppose the same person capable of performing all these ; and since they are divided, I esteem him most whose skill is most extensive. For my part, I have left to this branch those cases in which the physician makes a wound where he does not find one ; and those wounds and ulcers, in which I believe manual operation to be more useful than medicine ; lastly, whatever relates to the bones."

Strictly speaking, Galen is not of the Roman school, being a Greek by birth and education. It was not till his thirty-fourth year that he made Rome his residence. In that city he rapidly acquired reputation and practice—not only by his abilities, which were great, but by careful attention to every opportunity by which he could produce an impression upon others, favorable to his own reputation. The first of the following anecdotes, told by himself, illustrates this ; while the second, though of a different character, is too good to be omitted :

"Soon after my arrival in Rome," says he, "Glauco, the philosopher, took a great fancy to me, in consequence of my reputed skill in diagnosis. Meeting me accidentally in the street and shaking hands with me, he remarked, 'I have fallen upon you opportunely. I wish you to visit with me a patient in this neighborhood whom I have this moment left—the Silician physician whom you saw walking with me some days since, and who is now ill.' 'I inquired of him what ailed his friend?' when with his habitual candor he replied, that Gorgias and Apelas had spoken to him of my skill in diagnosis and prognosis, which appeared to them more like the result of divine inspiration than of medical science ; and that he wished to know for himself whether I really was thus skilful. He had hardly done speaking before we reached the door ; so that I had no opportunity of replying to his request—as I have often said to you—that on some occasions the signs of disease are certain, at other times they are ambiguous, and require to be considered again and again. But as we entered, I observed a servant carrying from the sick chamber a vessel containing a thin, bloody sanies, like the recent washing of flesh, a sure evidence of diseased liver. Without appearing to notice this circumstance, I proceeded with Glauco to the patient's apartment ; when placing my fingers on the wrist of the sick man, I examined his pulse in order to determine whether the attack was inflammatory, or simply a weakness of the affected viscus. As the patient was himself a physician, he remarked that he had recently been up, and that the effort at rising might have accelerated the

pulse ; but I had already discovered the evidences of inflammation ; and seeing on a recess in the window a jar containing something like a preparation of hyssop in honey and water, I knew that he had mistaken his disease for pleurisy ; in which, as in inflammations of the liver, there is usually pain under the false ribs. He had been led to this opinion, as I at once perceived, by experiencing this pain, by his short and hurried breathing, and by a slight cough. Understanding the case, therefore, and turning to good account what fortune had thrown in my way, in order to give Glauco a high opinion of my ability, I placed my hands over the false ribs, on the right side of the patient, and at the same time declared this to be the seat of pain ; which the sick man admitted to be correct. Glauco, supposing I had made this discovery merely by examining the pulse, began to express surprise. But to increase his astonishment, I added, 'Inasmuch as you admit the existence of pain at this spot, I wish you further to say whether you are troubled with a slight cough, and whether your cough is not dry, with sputa, and occurring at long intervals.' While I was yet speaking the sick man was seized with a cough such as I had described ; whereat Glauco was exceedingly excited, and no longer able to contain himself, began to vociferate in praise of my abilities. 'Do not think,' said I, 'that these are all the discoveries my art enables me to make ; there are others yet to be mentioned, which will elicit the testimony even of the patient.' Then turning to the latter I resumed : 'Is not the pain in this part increased, and accompanied with a sense of weight in the right hypochondrium, whenever you take a full breath ?' At hearing this the patient also was surprised, and was as loud in my praise as Glauco. Seeing fortune still smiling upon me, I was desirous of making some remark in reference to the shoulder, which appeared to be drawn downwards, as often occurs in severe inflammations as well as in induration of the liver ; but I did not venture to speak on this point, fearing to diminish the admiration which I had already excited. Nevertheless I touched upon it cautiously ; saying to the patient, 'You will not long feel the shoulder drawn downwards, if perchance you do not find it so already.' When he admitted this symptom also, seeing him greatly astonished, I said, 'I will add but one other word to show what you conceive to be the nature of your complaint.' Glauco declared he would not be surprised if I should do even this. But the patient, overcome with wonder at such a promise, observed me closely, waiting for what I should say. I told him he had taken his disease to be a pleurisy. This, with a further expression of surprise, he admitted to have been his own opinion, as well as that of his attendant ; who had been fomenting his side with oil, for the relief of that disease.

"From this time forward Glauco entertained the highest opinion both of me and of our art ; for, having never before come in contact with a physician of consummate ability, he had hitherto formed but an humble estimate of the profession. I have related to you these particulars," he adds, as if addressing a class of students,

"in order that you may understand that there are symptoms peculiar to particular diseases, and others common to several diseases; and, further, that there are some symptoms inseparable from the disease, some usually accompanying it, others again of uncertain character, or of rare occurrence; so that if fortune at any time offers to you a good opportunity, as in the instance just related, you may know how to take advantage of it; remembering that fortune often presents to us the means of acquiring fame, which, through ignorance, many are unable to turn to good account."

The following is equally characteristic: "There are, says he, 'certain persons who promise to prove that the arteries do not contain blood, yet never test their assertion by dissections. A teacher of this sort having asserted his ability to show that the aorta is always empty, and not demonstrating the fact, was exhorted to do so by a number of ambitious young men who had provided animals for the purpose. At first he refused to comply with their request unless suitably rewarded; whereupon they placed before him a thousand denarii as an inducement to prove his assertion. After much prevarication, when urged to proceed by all present, he took the scalpel in hand, and began by making an incision in the left side of the chest, where he imagined the artery could be exposed; but such was his want of anatomical skill that he cut directly down upon the bone. One of his associates, however, having opened through the intercostal spaces, he, again proceeding, injured in the first place the artery, and afterwards the vein. The young men who had deposited the money with the spectators, now, laughing at him, undertook the experiment themselves. They dissected through the intercostal spaces, as they had been previously taught by me, in such a way as not to injure the vessels; and without delay surrounded the artery with two ligatures; one at its point of departure from the heart, the other where it rests upon the spine, just as these boastful teachers had promised to do, in order that when the animal was dead one might see, from so much of the vessel as lay between the ligatures, whether or not the artery was empty of blood. But when it was not found to be empty, they declared that an incision must have been made in it at the time of applying the ligature; as if some other individual, and not these teachers themselves, had promised the demonstration. For they had never tried the experiment in presence of witnesses, nor could they have had much skill in applying the ligatures, since they did not even know that the artery and vein both extend to the lower boundary of the ribs."

Thus we close our extracts, and we are mistaken if many of our readers do not find themselves so interested in them as at once to desire to read the whole. For ourself, we shall continue to wait more and more impatiently for the continuation of this history, with which the author intimates, in his preface, that he may hereafter favor the profession.

Statistical Report on the Sickness and Mortality in the Army of the United States, compiled from the records of the Surgeon-General's office, embracing a period of sixteen years, from January, 1839, to January, 1855. Prepared under the direction of Brev. Brig. Gen. Thomas Lawson, Surgeon-General U. S. Army, by Richard H. Coolidge, M.D., Assistant Surgeon U. S. Army. 1856 ; quarto, 703 pp., with a map.

It is not always the case that statistics tell the truth, and one naturally looks at their source before he places implicit confidence in them. It is, therefore, proper to say, with this volume before us, that the statistics furnished by the medical staff of the army are especially reliable. This will be evident from these considerations : First, they are made concerning a certain number of persons, all of whom are entirely subject, during sickness, to the medical attendant. He can control them in every respect, visit them as often as may be in his opinion desirable, and can keep the control, at least of all acute cases, till they end. In the second place, the medical staff of the army is, as to its professional standing, above the average of the profession, and, therefore, their statements are worthy of all confidence. Thirdly, by the division of labor, so to speak—that is, by the assignment of a medical officer to a limited number of men, the exact condition of all can be uniformly ascertained, while, at the same time, the Surgeon-General is able to direct the attention of the whole staff to the same points, securing what cannot otherwise be obtained, viz : facility in the comparison of the observations made in all parts of the country.

We scarcely need to say that, for these reasons, we consider this volume as one of no ordinary value. It may, we believe, be consulted with confidence, and its results may with safety be made the basis of deductions of no little importance in civil life. In fact, it is apparent that this was the chief purpose of the Surgeon-General, as well as of the compiler. The latter, indeed, after alluding to the fact that, “during the sixteen years embraced in this report, the army has had but three years’ exemption from field operations and actual hostilities,” says : “In order to make the records of this office practically useful to the physician in civil life, and to render them subservient to the elucidation of the effects of climate in the causation and development of disease, it was necessary not only to present the vital statistics of the army in peace separate from those in war, but also to arrange the former in such manner as to render their comparison with the statistics of civil communities as free from objection as possible.”

The general plan of the book is this : The military posts of the country have been arranged in divisions according to their geographical relations. These are subdivided into regions, and the reports made by the medical officers of the different posts are grouped by regions, and are followed by the properly statistical tables of the sickness occurring in each division for the time before mentioned, namely, sixteen years. Meteorological reports from each section follow, and after these, statistics of the war with Mexico, and statistics of the recruiting service, an appendix concerning the Florida War, and remarks by various officers concerning the use of quinine in large doses bringing up the rear.

It will be apparent that there is here a large supply of material for remark, and many topics of interest are opened. To dwell upon all, as we could desire, is not now possible, and we therefore limit our present observations to the general statistical reports from the various divisions. These reports are, as we have said, of two classes, one consisting of papers written in reply to the order of the Surgeon-General, and describing more or less minutely the geography of the post, the physical aspect of the surrounding country, the geological formations, its flora, its fauna, its climate, the influence of habits, modes of life, water, diet, and local causes, and interesting particulars concerning the people living in the vicinity of the post ; and the second consisting of tabular condensations of the reports of sickness made to the Surgeon-General's office by all the medical officers at the close of each quarter.

The papers composing the first class of reports contain many striking facts, of which we shall repeat some of the most interesting, and without especial reference to any methodical arrangement.

Assistant Surgeon A. S. Wotherspoon makes the following statements concerning the inhabitants in the vicinity of Fort Kent, the northernmost post of Maine. These people are of French origin, being in part descendants of the old Arcadians, and in part of the Canadians. Dr. Wotherspoon says :—

They marry at an early age, particularly the females. One couple, who dwell a short distance from the fort, was married when the husband was 13 and the wife 14 years of age ; an instance occurred, since my residence in the country, of the marriage of a girl of 13 years, who had never menstruated ; and this, I am told, is by no means uncommon.

Some of the families are rather remarkable in point of numbers. Twelve living within a mile of the garrison, and taken without exception, have had in all 93 children, and been married in the

aggregate 162 years ; a child every $20\frac{1}{2}$ months. The wife of Jacques Camel (the father of one of these families) has been married 11 years, and had 7 children, all now living, except the eldest, who died at the age of 4 years. During the whole of these 11 years, she has never seen her monthly periods but once. Her second child was born exactly nine months after her first accouchement ; the third the same period after the second. She has always been in the habit of nursing her children from one birth to another.

Burgoyne, æt. 59, residing at Green river, has had 20 children—18 by his first wife, 2 by his second. She is now eniente. His eldest daughter has been married ten years, and has had 8 children. His mother had three pairs of twins.

Larent Terriand, at the same place, has had 26 children by one wife ; the mother had her last infant at the age of 53.

Buonaventure La Crog, in eighteen years, had 19 children ; of these, five pairs were twins.

Thibadeaux, now 66 years of age, has had 22 children by two wives—10 by the first, 12 by the second. Buonaventure Lisotte, at the age of 27, married Julia Martin at 19. He is now 51, she 43. They have had 17 children ; and 4 pairs were twins.

German Cire has had 22 children, all single births ; his wife was married at the age of 14, and is now 43.

German Michaux has had 20 children by two wives ; the youngest of these is 4 years of age. He is now 59, she 45 years old.

The wife of Isaac Biallette, aged 42, has had 19 children.

The wife of Pierre Richor, at Chatia Corner, has had in three years three successive twin births ; all 6 children are now living.

Mr. Webber, the Massachusetts land agent, who took the census in 1830, saw in one log hut a woman with 5 children under $3\frac{1}{2}$ years ; one twin and one triplet birth. She was then pregnant a third time.

There are six families at Green river, living within the space of a mile, who have had, in all, 106 children ; an average of 17.66 each.

They are attended during their confinements by the older women, some of whom have acquired considerable reputation in the management of obstetrical cases. They do not hesitate, when the labor does not progress with sufficient rapidity, to seize upon the presenting part, and effect the delivery by main force. In an arm presentation, the midwife fairly tore the child to pieces, effecting a delivery by means of a common kitchen pot-hook ; and what is rather singular, the mother recovered without any serious trouble resulting. They leave their beds often within twenty-four hours after the birth of the child, to attend to their customary household employments. In consequence of this, their rapid child-bearing, and the hard labor to which they are occasionally subjected, the greater majority of the females, particularly when advanced in life, suffer from prolapsus uteri and leucorrhœa. Uterine hæmorrhages are also of very frequent occurrence.

In 38 cases, the average date of the first appearance of the menses was 13.5 years ; in one case commencing at 11, in the most pro-

tracted at 19 years. To compare with these, I have procured the ages at which the only eight American girls who have been raised on the river, first menstruated. The average date was 15.12 years—the youngest at 14, the eldest at 16. As the Americans have a decided superiority in manner of living, use better and more stimulating food, wear warmer and more comfortable clothing—all of which causes would tend to accelerate the period of puberty—it would seem that race, as well as climate, has great influence in the matter. I have been able to obtain but few observations concerning the period of the menstrual flux. In three cases, it ceased at the ages of 43, 46, and 51 years.

Assistant Surgeon Charles C. Keeney thus speaks of the effect of bad bread upon the health of troops :

As far as my experience has gone at military posts, I have found bread badly baked, and an undue quantity of alcoholic drinks, to be the chief originators of the diseases of the digestive organs. Too much stress cannot be laid on the importance of having bread thoroughly baked. I have not unfrequently seen two-thirds of a command at a time afflicted with diseases of the digestive organs, arising from one single batch of badly baked bread. The company baker and bake-house should be daily inspected ; and as the art of making bread is a chemical process, none are so competent to make this inspection as the medical officer of the post. Stringent orders should be issued, enjoining on the commanding officer of the post to see this important inspection daily made.

We have so often seen injurious effects from bread improperly cooked, or improperly made, that we are quite certain that the Doctor is right. Much of the dyspepsia which is so common among the farming population, and especially among the females, is, we believe, due to bread made badly, cooked insufficiently, and eaten hastily while hot. Any man who habitually has bad bread on his table, may believe that his life is materially shortened by it.

In different reports we find allusions to the condition of the children among the Indians, and the rate of mortality among them. To those who sigh for the simplicity and consequent rugged health of savage life, it may be interesting to know that civilized life lengthens instead of shortening life ; and that the mortality among children is decidedly less in civilized communities.

Dr. Day, who does not appear to be of the army, makes a report to one of the surgeons concerning the condition of the Winnebagoes. This tribe he believes is increasing in numbers, and yet the proportion of those dying under 15 years is 70 per cent. of the whole mortality, a much higher ratio than that found among either the whites or the negroes of this country. Still there are some remarkable

instances of longevity among them. Concerning the treatment of the children, Dr. Day says :

The large per centage of deaths occurring in the early periods of life among these Indians, is abundantly accounted for by the Spartan treatment to which they are subjected in infancy. As soon as an infant is born, it is laid on a board, previously covered with a few folds of blanket ; then, with a strip of cloth two or three inches wide, is as amply and securely bandaged from head to foot as an Egyptian mummy, and then strapped to the board, care being always taken to include the arms, which are extended upon the sides of the infant, and leaving nothing out of the bandage but its head. In this straitened position they spend the greater part of the first year of infantile life, remaining at times for weeks without being taken from the board. The effect of this cradle (?) with the heavy woolen bandages, is to interfere with, if not entirely preclude, the healthy functions of the skin. The excrements of the child's body collect, excoriating the skin, and keeping up a constant irritation. The motions of the limbs—the only voluntary exercise an infant can have, and one so necessary to the development of its physical powers—being entirely precluded, it soon becomes weak and enfeebled. But the most pernicious effect of strapping their infants upon these boards is exerted upon the brain. Being always laid upon their backs, with little or nothing between the hard board and the imperfectly ossified head, the continued pressure exerted by the weight of the head almost universally produces a displacement of the occipital bone inwards, causing trismus nascentium, paralysis, &c., and deranging the functions over which the cerebellum presides. They think it a mark of great comeliness to have the head perfectly flattened behind ; and the Indian mothers show much anxiety in this respect.

It is wrong to suppose Indian children better capable of surviving less careful treatment in infancy than are those of the whites. The former are generally born with less vigorous constitutions than the latter ; and in taking into consideration the numerous causes of disease and death to which these forest children are subjected, the wonder is, how *any* survive—not why so many die.

Assistant Surgeon Wasson remarks that among the Sioux, one of the most warlike tribes, there is no doubt that a very large number of children fall victims to the "hardening processes to which they are unavoidably subjected, who, in civilized life, would have been reared to useful maturity."

The same officer, in a previous report made by him while residing in the vicinity of the Camanches, the most powerful tribe of Texas, states that he observed the same results consequent upon the same process among them. Assistant Surgeon Swift says of the same tribe, another portion of which was in his neighborhood, that they mostly die in infancy. Assistant Surgeon J. F. Hammond, stationed

in 1852 at Socorro, New Mexico, thus speaks of the inhabitants of that county. The late appearance of the teeth and the permanence of the first set seem incredible, especially when taken in connection with their early puberty. It will be remembered, however, that this is the region from which those miserable specimens of humanity exhibited as the Aztec children were brought.

In consequence of the altitude of the country, probably (?) ; of the impure atmosphere in their ill-ventilated habitations ; of their insufficient clothing ; want of cleanliness ; want of exercise ; scant and little varied diet ; early marriages and an inherited cachexia, they are born with feeble constitutions ; cut the first incisor teeth at the end of the first year of age ; walk at two years ; are weaned at three years, or when the mother becomes obviously enciente ; the females menstruate at twelve and thirteen ; the milk canines are seen standing, and the permanent molares appearing at the seventeenth year ; at twenty-five they are in the "sere and yellow leaf ;" liable to be, and suffering much when they are, attacked by disease, they pass through life with lessened vitality, and rarely attain to very old age. Nature has done a great deal for them. Were they civilized and intelligent, disease would be little known among them.

The method of nature does not seem to succeed any better in Monterey, California, for Assistant Surgeon King reports thus of that healthy city :

More children die of cholera infantum and lobular or infantile pneumonia than from any other disease. These affections, as I before observed, are produced more by the mode of living than any climatic agency. It is the custom among all classes of native Californians to clothe their children very scantily until they attain the age of four or five years. Before this period no shoes nor stockings are used, the only garment worn being a single short petticoat of thin calico, and often, indeed, are without any clothing whatever. During the rainy season, the lower extremities of the children are constantly cold and damp, and, as fire-places and chimneys are almost unknown, their garments are seldom dry, and in this condition they usually sleep on mats laid on a ground floor. To these causes are to be ascribed also the catarrhal affections so common to children, and the pleurisy frequently met with in adults.

The Chinooks, of Oregon Territory, seem to be somewhat more successful, according to the report of Surgeon Moses, which we give as the only one that speaks at all favorably of hardening :

The infant, immediately after ablution, is straightened out, tightly swathed, with the arms included, and placed on a board to be submitted to the process of flattening of the head. This is effected by pads, suitably placed over the frontal bone, inclining from the superciliary arch to the vertex ; counter pressure being made by a pad under the occipital bone. The pressure is maintained during one

year, when the bones having sufficiently ossified to retain the desired shape, the pads are removed. Infants do not appear to suffer by this pressure, which is kept up day and night ; they nurse well, and sleep comfortably. Among certain tribes side-pads are used, so as to render the head pointed ; but this is not followed with the Chinook.

Many of these reports speak of child-bearing among the various savage tribes, and half-savage people, who surround the remote posts, and their general testimony is, that parturition is attended with the usual dangers, while, from the want of knowledge on the part of the midwives to enable them to remedy unfortunate positions, the lives both of mother and child are often sacrificed. Uterine diseases, such as leucorrhœa, prolapsus, &c., are very common among them, and are usually attributed by the reporters to too early getting up after labor. But we have not space for extracts which dwell upon these topics.

The tabulated reports, those which are purely statistical, are made up from the quarterly reports returned on certain days from each post, and as they are simply returns of diseases treated, and their results are entirely independent of any theories or impressions of the writers, they constitute a valuable accession to this kind of knowledge, and suggest many interesting subjects to the student. On one point alone shall we dwell, in part because it is one of the most important, in part because especial attention has been called to it by the compiler of the volume, and in part because it sustains views already advanced by a late French writer, and laid before the readers of the MONTHLY about a year since. We refer to the influence of climate on phthisical person.

The writer to whom we refer is Jules Rochard, a surgeon in the French navy, whose book on the influence of a sea life and warm countries on the progress of phthisis, was considered worthy of a prize by the French Academy of Medicine. The first paragraph which we quoted from his work so well expresses what we wish now to say, that we shall not apologize for repeating it :

When one studies a disease which is set down for nearly a tenth of the general mortality, and whose victims are counted by thousands, when it is proposed to determine its frequency and its progress in given conditions, one must turn not to individuals but to masses. Statistics alone can furnish the solution of such a problem ; but that they may have a real value it is necessary that they should be based upon collections of men subjected to regular control and constantly under the eye of a physician. To be able to draw general conclusions from them, it is not necessary to confine them to the limited

observations of certain localities, but all latitudes should be embraced, and if possible every point of the globe of any importance.

As we have said, Dr. Coolidge, the compiler of this volume, has called especial attention to the evidence adduced by these tables, and we shall give his conclusions entire. The consolidated table of the mortality from phthisis in the army is thus given, and it will be seen that it includes computations of the per centage in the different regions :

Consolidated Table exhibiting the amount and ratio of sickness and mortality in the U. S. Army, in the various regions, from phthisis pulmonalis.

No.	Regions.	Mean strength.	No. treated.	Deaths.	Ratio of cases per 1,000 of mean strength.
1.	Coast of New England.....	3,963	19	5	4.8
2.	Harbor of New York.....	9,387	56	35	5.9
3.	West Point.....	6,901	6	8	0.8
4.	North Interior, East.....	3,553	17	10	4.7
5.	The Great Lakes.....	10,346	47	33	4.5
6.	North Interior, West.....	7,230	30	15	4.1
7.	Middle Atlantic.....	6,299	16	14	2.5
8.	Middle Interior, East.....	2,456	6	3	2.4
9.	Newport Barracks, Kentucky.....	1,454	5	4	3.4
10.	Jefferson Barracks and St. Louis Arsenal.	5,580	23	21	4.1
11.	Middle Interior, West.....	5,319	28	13	5.2
12.	South Atlantic.....	2,800	26	5	9.2
13.	South Interior, East.....	5,919	43	28	7.2
14.	South Interior, West.....	10,013	20	25	2
15.	Atlantic Coast of Florida.....	835	2	1	2.3
16.	Gulf Coast of Florida.....	2,299	16	3	6.9
17.	Texas, Southern Frontier.....	4,450	18	11	4
18.	Texas, Western Frontier.....	6,324	25	12	3.9
19.	New Mexico.....	5,873	8	3	1.3
20.	California, Southern.....	1,707	9	5	5.2
21.	California, Northern.....	1,599	9	4	5.6
22.	Oregon and Washington.....	1,831	6	2	3.2

On this table Dr. Coolidge remarks :

The ratio of "cases treated" is given in this table in preference to that of deaths, for the reason heretofore stated, that soldiers affected with chronic diseases are frequently discharged from the service in accordance with their own wishes.

The cadets of the Military Academy at West Point are young, are only admitted after a rigid examination in regard to their health and physical development, and remain but four years in that institution. The statistics for West Point should therefore be excluded from any analysis of the results exhibited in this table ; those also for New York harbor are to be considered as constituting a partial exception for the reasons stated on page 14 of this volume. One other qualification relative to these statistics needs to be mentioned : the ratio given for the North Interior West is higher than would be the case if the statistics for Fort Crawford were thrown out.

It will be perceived by an examination of this table that, with exception of West Point, the lowest ratio of cases of consumption

occurs in New Mexico, being only 1.3 per 1,000 ; and the highest in the South Atlantic Region, where it is 9.2 per 1,000.

It will also be noticed that the regions designated as the South Interior East and Gulf Coast of Florida give the next highest proportions, being respectively 7.2 and 6.9 per 1,000 of mean strength. The ratios of these three regions, and also those for California, are higher than for any of the regions in the northern division. A careful examination of the consolidated temperature, rain, and weather tables in this volume, in connection with the statistics relative to consumption, will, it is believed, lead to the following conclusions :

First. That temperature, considered by itself, does not exert that marked controlling influence upon the development or progress of phthisis which has been attributed to it. If a high range of temperature were favorable to the consumptive, the South Atlantic Region, the South Interior East, and the Gulf Coast of Florida, should exhibit a lower ratio than the colder regions of the North and northwest, whereas the contrary obtains ; and again, if a high range of temperature were the controlling element in causing an increased ratio of this disease in the two southern regions above named, we ought *not* to find a lower proportion of cases in Texas, where the temperature is higher, nor in the South Interior West, where it is nearly the same as in the South Atlantic Region.

Second. That the most important atmospherical condition for a consumptive is DRYNESS. An examination of the rain tables will serve in part to elucidate this position, and in part only, for the total annual precipitation in rain and snow may be equal in two or more places, and yet the average condition of the air as respects moisture—the dew-point—may widely differ. It is impossible to represent all these distinctive features by statistical tables, but the fact has been forcibly impressed upon the compiler during the minute examinations necessary to the preparation of this report.

Third. That next to DRYNESS in importance is an EQUABLE temperature—a temperature uniform for long periods, and not disturbed by sudden or frequent changes. An uniformly *low* temperature is much to be preferred to an uniformly *high* temperature. The former exerts a tonic and stimulating effect upon the general system, while the latter produces general debility and nervous exhaustion. The worst possible climate for a consumptive is one with a long-continued high temperature and a high dew-point.

The papers from which we have before quoted contain frequent confirmation of these views. Thus Assistant Surgeon Wotherspoon says of Fort Kent, which is in the North Interior Region, East :

The climate of Fort Kent, like that of the colder regions of northern Europe, does not seem favorable for the production of pulmonary phthisis. During my sojourn at the post, I have neither seen nor heard of a case of this disease among the French or American settlers. Assistant Surgeon Isaacs, who, during the two years he was resident at the fort, had a much better opportunity than myself

of becoming acquainted with the diseases of the country, informs me, not only that he never saw a case of consumption in the country, but that some of the inmates of the garrison, who were affected with suspicious symptoms, recovered from them entirely. The present revenue officer at the post, a man of decidedly scrofulous temperament, had suffered a slight attack of hæmoptysis, and other symptoms of incipient pulmonary disease, when he was ordered to this post. Though liable to catch cold when exposed, his cough no longer troubles him ; he has gained flesh and strength, and considers himself free from the disease. A careful examination of the chest in this case, gave no marked results ; yet I have no doubt, from his symptoms, that when ordered to Fort Kent he was suffering under tubercular deposition in the lungs. One case of phthisis occurred in an artificer in company G, 1st artillery, a man hereditarily disposed to the disease, and having it fully developed before his arrival at the post. He remained for a year in tolerable health, until much exposed to hard labor in the midst of the melting snows of March and April, when the disease became more marked, and he was forced to enter the hospital. As his term of service had nearly expired, and he was desirous of visiting his friends, he was allowed a furlough, without remaining any length of time under treatment.

Assistant Surgeon Coolidge reports from Fort Fairfield, which is in the same region :

In the command, two cases of phthisis have occurred : one, complicated with extensive pleurisy, with effusion on the right side, proved rapidly fatal ; the other, though well marked—a large cavity having formed in the superior lobe of the right lung, attended with such extreme emaciation that at one time death was daily expected—recovered ; a result which I attribute to the invigorating effects of this climate, and to the use of iodine internally. More than a year has elapsed since the subject of this disease returned to duty, during which time he has been fully exposed to the vicissitudes of the weather. He is now healthy and robust.

Assistant Surgeon Sprague, reporting from Hancock Barracks in the same region, says :

Cold as the Winter is, and damp as the Autumn and Spring are rendered by frequent rains, persons who have suffered from weak chest find their complaints much mitigated by a residence here. Consumption is rarely seen among the inhabitants of the town, and many persons who were predisposed to that disease, have continued in good health, free from cough, and have had their constitutions invigorated and improved.

Surgeon Foot remarks of Fort Winnebago, which is in the North Interior Region West : “ One thing I think remarkable here ; complaints of the lungs, phthisis in all its forms, are less common here than at any post at which I was ever stationed. How shall we account for it ? Is it the dry atmosphere ? ”

Assistant Surgeon Keeney, writing from Fort Dodge, in the same region, observes that "the only diseases of the chest, involving the substance of the lungs and pleura, were imported cases. The mildness of the diseases of the thoracic organs may also be attributed to the general dryness of the atmosphere during the great thermometric changes."

From Fort Laramie, in the same region, Assistant Surgeon G. K. Wood writes :

The climate of those broad and elevated table-lands which skirt the base of the Rocky Mountains on the East, is especially beneficial to persons suffering from pulmonary disease, or with a scrofulous diathesis. This has been known to the French inhabitants of the upper Mississippi and Missouri for many years ; and it has been their custom, since the settlement of that portion of the country, to send the younger members of their families, who showed any tendency to diseases of the lungs, to pass their youth among the trappers of the plains and mountains. The beneficial result of this course, no doubt, depends, in a great measure, upon the mode of life led by these persons—their regular habits, constant exercise in the open air, and the absence of the enervating influences incident to life in cities ; but that more is due to the climate itself, is shown by the fact, that among the troops stationed in this region (whose habits are much the same everywhere), this class of disease is of very rare occurrence. The reports from the line of posts stretching from the upper Platte, through New Mexico, to the Rio Grande, give a smaller proportion of cases of pulmonary disease than those from any other portion of the United States. The air in this region is almost devoid of moisture ; there are no sudden changes of temperature ; the depressing heats of the eastern Summers are never felt ; and, although in the North the Winters are extremely cold, a stimulant and tonic effect is the only result of exposure in the open air.

It is of great importance that the climate of this region should be generally known, that the present injudicious course of sending consumptives to the hot, low, and moist coast and islands of the Gulf of Mexico should be abandoned. In diseases of debility, the remedies are tonics and stimulants. What is more debilitating than affections of the lungs, and what less tonic than heat and moisture combined, as is found in the climate of the Gulf coast ! It is simply not cold, and has no other advantage over the northern States. The towns of New Mexico should be selected as a refuge for those showing a tendency to disease of the lungs, or scrofula, anywhere East of the Rocky Mountains, and West of the region, where "northers" prevail.

Assistant Surgeon Hammond, stationed in New Mexico, says :

Phthisis pulmonalis I have never seen in the country, except in two instances. Once in an officer of the United States army, and once in an American emigrant. It was developed in each before he

left the United States, and each very gradually improved. One resided at Socorro, the other at El Paso del Norte.

On the other hand, we have from Florida a report, by Assistant Surgeon Southgate, written evidently with the most complete confidence in the desirableness of that climate for consumptives. The "Camp, near New Smyrna," from which he writes, is directly in the district to which consumptives mostly resort, St. Augustine being a favorite place with them. And still the results of his observation, in themselves, are not calculated to impress one with the advantages of that region for this class of patients. The consolidated table before given shows a favorable per centage for this coast, but it is to be regretted that it is based on so small a number of men. Dr. Southgate says :

Lying mostly between two seas, Florida is, by position, entitled to an equable climate ; and yet, on this coast, and in this latitude, equability can hardly be considered characteristic of it. During the Winter and Spring, the atmospherical changes are often sudden and marked. Even in this respect, however, Florida, contrasted with other sections of our country, can claim a superiority. Rarely is the change so great as to impress an individual, in fair health, uncomfortably : and the invalid has, generally, sufficient warning to guard against it. In relation to general health, indeed, equability can hardly be considered the most vital element of climate ; the highest degree of physical vigor being attained in climates of which variableness is a striking quality. The human organism is constituted for such mutations ; and were it subjected to the monotonous impression of a uniform temperature for a length of time, its powers would, unquestionably, languish. Even in special cases, such as chronic diseases of the lungs, the marked differencé, during the Summer, between the temperatures of day and night, so characteristic of the climate of this coast, would probably be of service to the invalid. The refreshing sleep that may be enjoyed during the cool nights of midsummer, with the invigorating sea-breezes of the day, must in his, as well as other cases marked by debility and irritation, promote the general health ; while the fact that, during the Winter, the temperature is rarely so depressed that exercise in the open air may not be enjoyed, will render it a salutary residence during that season of the year. Exercise in the open air, by maintaining the vigor of digestion, and appeasing the wearing excitement of the heart and arteries, must economize the vital force and save the integrity of the tissues ; and, to the consumptive invalid, these considerations are of the very first importance.

I write in reference to the northern invalid, whose skin has been constricted during successive hard winters, who has suffered from frequent catarrhs, and in the upper portion of whose lung the fatal deposit has been made ; to him, a removal to Florida holds out the prospect of greater length of days. I am credibly informed that

there are residing between this and Indian river, three individuals, who left the North, presenting the symptoms of advanced pulmonary disease, and, by a permanent residence in this delightful peninsula, have regained an unexpected measure of health. Making due allowance for probable errors of diagnosis, it is not improbable that the entire change of life, the newness of impressions—mental, moral, and physical—may have imparted a renewing impulse to the energies of the system, by which the secretion of tubercle has been checked; and that already deposited rendered inoperative for mischief. On the other hand, for those who become consumptive in Florida, a removal to a more bracing climate is imperatively demanded. In such, the rapid melting down of the tissues of the lung during the warmer months, it has been my painful duty to witness in more than a single instance. In St. Augustine, the climate of which differs but slightly from that of this camp, tuberculosis of the lungs is not a rare disease. Of one family, originally numbering ten, two alone survive—eight having been hurried to the tomb by this formidable malady. Among the negro population it is not uncommon, and would seem to be on the increase—three cases of the hæmorrhagic variety, all terminating in a rapid decline, having come under my observation. The cause of this increase in a class, on many accounts interesting, is worthy of the investigation of the philanthropist and physician.

In connection with all these facts we place the following table, arranged by Dr. Coolidge from the statistical reports concerning sickness, &c., in the British army :

Stations.	Mean strength.	No. treated.	Deaths.	Ratio of cases per 1,000 of mean strength.
Gibraltar.....	33,131	176	116	5.3
Malta.....	21,172	129	91	6.0
Bermuda.....	11,224	100	54	8.9
Nova Scotia and New Brunswick..	26,806	149	111	5.5
Canada.....	90,456	524	327	5.7

Some of the conclusions to which M. Jules Rochard arrives are here so apt that we quote them, omitting those which refer more particularly to sea life :

VI. Warm countries, regarded as a whole, exercise a bad influence upon the process of tuberculization, and accelerate its course.

VII. Those situated under the torrid zone (warm countries properly so-called), especially partake of this sad prerogative, and a residence there should be positively interdicted to consumptives. The unanimous opinions of the physicians-in-chief of our colonies and of the English colonies ; the comparative statistics of colonial troops of the regiments of Europe in the two countries ; the frequency of phthisis in our inter-tropical stations, and in English governments situated under the same latitude ; a multitude of special observations demonstrate it in the most positive manner : the examination of each locality in particular confirms it.

VIII. Most warm countries situated out of the equatorial zone,

are also prejudicial to consumptives. A few places upon the confines of that region, and concentrated in a narrow space, are exceptions. They owe this to local conditions.

IX. The first period of phthisis is the proper time to advise emigration, from which good results may be expected.

It is to be borne in mind that the men, upon whom all of these observations were made which form the basis of these deductions, were picked men. They had undergone careful and complete examination before they were admitted to the service, and the simple fact of manifesting any tendency to phthisis would have caused them to be rejected. Moreover, the diet, clothing, hours of labor, mode of life, and general hygienic influences are, as nearly as practicable, the same for all, so that for comparison they seem to possess the most desirable conditions. We are justified, from all this evidence, in the belief that the opinions of M. Rochard, enunciated in the propositions which we have quoted, are correct; and that moist and warm climates are unfavorable for persons of a phthisical tendency. Dr. Coolidge's three propositions, probably, very nearly express the truth with regard to the influence of climate on these patients, and should be borne in mind by all who are consulted as to the proper place for the residence of such persons. The pupils of the late Dr. Drake are aware that he held similar opinions, the result of his acute observation. Fort Snelling, in the northwestern region (Minnesota, if we are not mistaken), is the region which he believed to be the most desirable. To our own mind there is nothing but sadness suggested by a consumptive person making his way to Florida for the sake of its climate.

Of the interesting facts contained in the other portions of the volume we shall hope to speak hereafter. Meantime, we beg leave to suggest, that a similar work prepared from the records of the medical bureau of the Navy, would be of great value to the profession, and a credit to the Government.

PROCEEDINGS OF SOCIETIES.

NEW YORK PATHOLOGICAL SOCIETY.

[Reported for the MONTHLY by E. LEE JONES, M.D., Secretary.]

July 8th, 1857. The President, Dr. J. R. Wood, in the Chair.

Dr. Clark exhibited a *calculus* that had been discharged from the *lumbar region*, and which was sent to him by the patient's

physician, Dr. Buck, to determine its nature. Five such *calculi* had been discharged during last Winter. Dr. Clark stated that this patient also had stone in the bladder, and showed several fragments passed after the operation of lithotripsy. He had examined the composition of these latter, and had detected, as yet, only triple phosphate and urate of soda. Oxalate of lime had not been discovered, but as the analysis was not completed, he could not deny its presence. He was led to look for this as an ingredient of the calculus, from the microscopic character of the urine—numerous octahedral crystals of the oxalate being seen entangled with pavement epithelium from the bladder. Pus was also detected in the urine, indicating catarrh of the bladder. The patient, when but five years old, had symptoms denoting the passage of calculi into the bladder. At 17, after having discharged a number of these through the penis, he quit work and sought medical advice. He had had several attacks of “Nephritis,” which subsided always on the escape of a calculus. The first one passed from the lumbar region, was somewhat less in size than a pea, and was discharged through the tract of a seton. The patient suffers from cough, which, in the absence of any of the physical signs of tubercle, Dr. Clark supposes to depend on that form of bronchial irritation which may accompany a cachectic condition, of whatever kind.

Dr. Wood remarked that when he first saw the case, he thought he could detect deep seated fluctuation in the region of the kidney. Accordingly he introduced a deep seton, which had the effect not only of liberating the matter collected there, but also of giving exit to the five calculi referred to. Dr. Wood represented the sufferings of the patient as having been intense.

Dr. Buck stated that the case first came under his observation three years ago. The patient had then been suffering for three months past, with symptoms denoting the presence of a foreign body in the bladder, these symptoms having been preceded by others indicating the passage of a renal calculus. He sounded in the usual way without detecting any stone, but on introducing the Brise-Pierre, he found one and crushed it. This operation he repeated three times, after which the patient experienced almost complete relief. Since that period Dr. Buck has treated him from time to time in a similar way, but his condition is now rather unfavorable. He is, however, a man of great courage, and generally manages to keep at work. Lately Dr. Buck performed lithotripsy four times, and in one instance a fragment lodged in the urethra ; it was found near enough the

meatus to permit of removal by the forceps. At the present moment the bladder is probably free from any foreign body. The operations have generally been attended with severe pain, which, however, has always subsided on removal of the instrument. Dr. Buck had seen two cases similar to the one just related. The first was that of a young lady, who was subject to attacks of nephritic colic on the right side; there was no pain below the region of the kidney. The other instance was that of a young man, who had been under his observation about two years. The symptoms were marked, and the ureter seemed distended at the region of the pelvis. Dr. Buck was unable to predict what would be the final result. Whilst in doubt, he met Prof. Jackson, at Baltimore, who told him that he had once had a patient suffering with the same train of symptoms, and in whom, after the lapse of two years, the stone made its descent into the bladder. The same termination occurred in Dr. Buck's case. The patient, whilst at stool, observed that the urine suddenly stopped flowing; and, on examination, it was ascertained that a calculus, about equal in size to a large cherry stone, had lodged in the urethra.

Dr. Wood inquired whether any members of the Society had ever known a communication to exist between the kidney and the external parts, as in the present case? He was of opinion that urine had made its escape through the fistula, and considered that the patient owed his life to the free exit which had been made for the pent up matter.

SPECIMEN No. 2. *Dr. Clark* presented a specimen at the request of *Dr. Wood*. It consisted chiefly of the sphenoid bone, and adjacent parts, including the several foramina through which the cerebral nerves make their escape from the cranium. The bone was degenerate, and was the seat of a tumor, which filled up the sella-turcica. The degeneration was most marked on the left side, where the nerves go to the head and face. The tumor was of a similar nature to one *Dr. Clark* had met with some time ago, and was what had been denominated the "Recurrent Fibroid" tumor, a growth which he believed had all the character of malignant disease. Under the microscope small ovoid cells were revealed—some with single, others with double nuclei; fusiform cells, and fibres. There was also reason to believe that the nerves which passed through the diseased mass, had undergone the same degeneration. The condition of the nerves on the two sides was as follows:

1st pair. Not seen in the specimen, but were not diseased.

2d. On the left side the nerve ran through the tumor ; that of the right side was less involved.

3d. Both the nerves penetrated the diseased mass.

4th. Both the nerves penetrated the diseased mass.

5th. Were divided at the point where the casserian, or sympathetic ganglion was attached ; both of them, however, running through the substance of the tumor.

6th. Not found, but were probably involved on both sides.

7th. Left nerve ran through the mass, the foramen being surrounded by disease ; the right nerve seemed free.

8th. Left entered the mass at its edge ; right uncertain, but the foramen was not diseased.

9th. Left entered directly the mass ; right was cut short, but was probably free.

The meninges lying upon the medulla oblongata were thick and vascular, though not very firm. Dr. Clark was unable to say whether the morbid deposit was greater on the right or on the left side.

Dr. Wood thought that the greatest amount of deposit was on the left side.

Dr. Clark. On removing the brain there was found softening of the medulla oblongata, the corpora pyramidalia being softened to the depth of a quarter of an inch. This was most marked on the right side. Effusion existed about the whole of the medulla. Dr. Clark then read the history of the case, and remarked, in conclusion, that he thought it interesting, as illustrating the physiology of the cranial nerves.

Dr. M'Nulty inquired more particularly concerning the paralysis of the tongue and pharynx.

Dr. Clark thought that the muscles of the tongue, larynx, and surrounding parts, were all affected, and had lost their coördinating power.

Dr. Finnell next presented five specimens. The first was a uterus removed from a woman 40 years old, who died of "unavoidable hæmorrhage." Labor began on the Sunday evening previously, and the "pains" continued without interruption. The physician felt the membranes protruding ; broke them, and gave exit to the water and blood. He then found the placenta to be the presenting part, and, turning the child, delivered by the feet. Bleeding, however, continued, and the woman died on Monday morning. The uterus appeared healthy, nothing deserving notice, except that the follicles about the os tinæ were enlarged and distended with mucus.

The second specimen exhibited a gun shot wound made by a musket ball. The ball entered four inches to the right of the umbilicus, and passed downwards and forwards to the iliac bone of the opposite side, perforating the intestine at six or seven points, and also the mesentery at two points. The patient survived one hour. The bullet, which was shown, was flattened where it had been driven against the bone.

The third specimen also showed the effects of a gun shot wound, the points of entrance and exit being the sternum and axilla. The interesting feature in this case was a wound of the right ventricle of the heart, unaccompanied by wound of the pericardium. The pericardial sac was filled with blood.

The fourth specimen was somewhat similar to the last, the parts wounded being the sternum, vertebral column, and thoracic viscera. Fragments of a vertebra were found in the thorax, which made it probable that the bullet had entered behind and passed forwards.

The fifth specimen was removed from a boy aged 3 years and 8 months, commonly known as the "Bearded Boy." He was ill but half an hour before he died, and complained principally of a sensation of tightness and constriction of the chest. The organs exhibited were the heart, liver, and kidneys. Attached to the right kidney was a large mass, which externally, and on section, had all the appearances of soft cancer. The child, when a year and a half old, began to grow rapidly, and ate and drank to excess. He would indulge freely in water, drinking, it was said, two gallons by day, and the same quantity by night. The urine was abundant in proportion. The arms, breasts, shoulders, and genitals were covered with hair, the latter organs being well developed. The disease of the kidney which the autopsy revealed, had never been suspected during life. The stomach was found greatly distended, and Dr. Finnell was inclined to regard this as the cause of death.

Dr. Wood asked whether in the case of wound of the intestines, much blood was found in the cavity of the abdomen.

Dr. Finnell replied in the negative.

Dr. Wood inquired what organs were wounded in the third case related.

Dr. Finnell was unable to add any further particulars, except that the lung was wounded. Dr. Finnell was obliged to make the post mortem rather hastily.

At the request of the President, Dr. Buck gave the following

account of the cases of gun shot and other wounds, which had recently been admitted to the New York Hospital.

CASE 1. Patient a boy 12 years old. A musket ball entered near the crest of the ileum, and passing upwards and inwards along the bone, escaped from the body, and was afterwards found, much flattened, in the child's pantaloons. Little blood was lost. At noon, on the day following the accident, the child complained of pain in the head, and growing rapidly worse, died the same evening. At the autopsy the soft parts were found much torn. Death seemed attributable to excessive reaction.

CASE 2. The ball traversed the upper part of the thigh, from behind forwards, and somewhat upwards. The bone escaped injury, but there was reason to suspect that the sciatic nerve was wounded, as the patient suffered from tingling in the sole of the foot.

CASE 3. Was a compound fracture of the patella, the joint being freely laid open.

CASE 4. Compound fracture of the tibia—the ball went through, shattering the bone.

CASE 5. Secretary failed to report.

CASE 6. Ball entered inner side of limb, breaking the patella, and remaining concealed in the soft parts.

CASE 7. Was a flesh wound of the leg.

CASE 8. In this case there was an incised wound of the scrotum on the right side, exposing and wounding the testicle. Nothing further was discovered on first examining the wound, and it was simply closed with a few points of suture. Shortly after, however, the patient was attacked with vomiting, pain, and other symptoms, which led to a more careful examination, the result of which rendered probable the existence of a strangulated hernia. In favor of this opinion was the fact that the man had worn a truss during two years past; the inguinal canal, also, could be felt moderately distended by a tumor, partially reducible. There was some doubt, but an operation was considered advisable, and was performed, when it was ascertained that the tumor consisted only of a thickened hernial sac, the contents having retreated into the abdominal cavity. The sac was the seat of an incised wound on its posterior aspect; and clots of blood could be detected in the peritoneal sac, which led to the suspicion that some artery in the neighborhood had been wounded. The patient died, and at the autopsy the ileum was found to have been wounded two feet from the caput coli. There were four incisions, or rather two pairs, the distance between them being two inches. It was evident

that the intestine had been wounded in the sac. There were marks of extensive peritoneal inflammation, and a considerable amount of extravasated blood existed.

CASE 9. Was a penetrating wound of the abdomen, the instrument having entered on the left side, between the tenth and eleventh ribs. Three inches of omentum protruded through the opening. The wound was enlarged, and the finger being introduced, detected the margin of the spleen; the apex of the heart could also be felt beating against the diaphragm. The patient's condition was regarded as favorable.

CASE 10. This was another case of stabbing. The wound was on the left side, between the seventh and eighth ribs. The finger could be passed into the chest. There was no emphysema and no expectoration of blood; but the lung was probably wounded, and was collapsed, leaving about an inch between the lung and the parietes of the chest.

CASE 11. Wound of the right thigh, the ball traversed the popliteal space, and entered the opposite thigh, wounding the popliteal artery. An extensive incision was made along the edge of the semi-membranous muscle, and the artery secured by a ligature. It was found nearly completely divided.

Lastly, Dr. Buck mentioned a case where the liver was wounded, and the patient lived two hours.

Dr. Finnell exhibited a bullet that had been discharged from a gun shot wound of the thigh; it came away spontaneously, and was found in a poultice. The ball in entering carried with it a portion of bed clothing, which Dr. Finnell thought had prevented his detecting its presence with the probe.

Dr. Buck observed that most of the wounds he had seen at the hospital had been made by small balls.

Dr. Gardiner inquired whether it was considered a good practice to make a prolonged search for the ball.

Dr. Buck replied, that the practice at the New York Hospital is not to make more than a moderate exploration of the wound.

Dr. Gardiner presented a hollow, membranous cast that had been discharged from the uterus. No placenta nor embryo were attached, and there seemed no evidence that it contained an ovum.

Dr. Clark remarked that the specimen was probably an embryo, as several doubtful cases have been shown to be such on microscopic examination.

Dr. Harris exhibited a specimen showing ulceration of the mucous

membrane of the larynx. The patient had had typhoid fever at the Marine Hospital, and whilst convalescent was attacked with dyspnoea, for which tracheotomy was performed. There was a greenish patch on the base of the tongue, which appeared to be gangrenous, and had been so regarded during life. The small intestine and ileo-cæcal valve were also the seat of ulceration.

Dr. Harris next presented a cirrhotic liver, and a heart having a patulous condition of the mitral orifice ; they were removed from a drunkard who, during life, had albuminous urine and anasarca.

Dr. Harris also showed a specimen of black vomit, obtained from a patient who had yellow fever at the Quarantine Hospital.

EDITORIAL AND MISCELLANEOUS.

MARSHALL HALL is dead. There are few men among the physicians of England whose names are more familiar to the profession of the whole world, and there are few whose death will be a greater loss to humanity. Entirely devoted to scientific pursuits, his investigations, always marked by originality, had for their end the benefit of his fellow men. His mind was not content with the simple discovery of truths, but strove to turn them to good account, to give to them some practical result. It was this peculiarity, as well as his long and eminent career, that has made his name a household word. And such it must continue to be. His last contribution to the knowledge of his fellow men,—viz: the series of rules drawn up by him for the treatment of drowned persons, and known as the Marshall Hall method,—promises to make his fame still greater ; and many will yet owe their lives, as many already do, to his discoveries and wise deductions from them.

The last, and we believe the only visit of this savan to this country, was in 1853-4, and was made in the pursuit of health, as well as with the desire to see America. At that time we had the honor of meeting him repeatedly, and were always interested and instructed by his conversation. He was not a talker, but rather disposed to reserve and silence. But when we touched upon those scientific subjects to which his life was devoted, he warmed up with enthusiasm, and the assurance of a common interest in those pursuits and investigations drew him closely to one. We have reason to know that the

high regard expressed for him by the profession in this country, was grateful to him not so much because it touched his vanity, as that it assured him that his labor was appreciated.

At the time of his visit to this country, he was endeavoring to devise an improved method of opening the trachea in those cases in which it became necessary, and especially for the relief of epilepsy. The enthusiasm with which he investigated every case which promised to be of use to him, will be remembered by all who witnessed it. The results of those labors were not so great as he had hoped they might be, but with true wisdom, instead of vainly regretting this, he employed himself in new directions.

The announcement of his death is made in the *London Lancet* of the 15th of August, and with such particulars concerning him as will interest our readers. We therefore copy from that journal, only protracting our own remarks to say that he will be sincerely mourned by the medical profession of America.

Death, that most unsparing of tyrants, has exacted from the greatest physiologist of the age the last debt of nature. Slowly, surely, and relentlessly, disease has been undermining the earthly tabernacle of a mind which, for vast powers, high purposes, and indomitable energy, has found no superior in its native land in the present half-century. On Tuesday last, the 11th inst., Dr. Marshall Hall died at Brighton, aged 67 years.

It is impossible to record this melancholy event without feelings of the deepest sorrow. The loss is one which all must feel most keenly who have a reverence for high endeavors, for earnest devotion to science, and for all the sterling qualities which can adorn a man. Science has lost the worthiest of her sons, medicine has lost a great master, and philosophy a great thinker. The clear and vivid intellect of this celebrated man has steadily and successfully risen superior to the depressing influences of disease for the last fifteen years. Even during the present year, when confined to one room, his chamber has been a scene of intellectual activity. Physical debility, which robs most men of their power of thinking and reasoning, had not dimmed the brightness of his wonderful mind. Clear and penetrating, and impelled by a wide philanthropy, the last contribution of Dr. Marshall Hall to science has been a preëminently useful one to the cause of humanity. It is thus that great men should die. There is a grandeur in such a life-end, to which the mere external grace of a falling Cæsar is not for one moment comparable.

Dr. Marshall Hall was born at Bashford, in Nottinghamshire, in the year 1790. His father was a manufacturer, and a man of no small capacity and information, and had the merit of being the first person to perceive the value of chlorine as a decolorizing agent, and applying it on a large scale. The gifts of intellect were bestowed with no sparing hand in this family. The father and two sons fully

vindicated their claims to high intellectual endowments. But Dr. Marshall Hall has eclipsed his less brilliant relations. What in them was acumen and sagacity, was developed in him into genius. There was in him that rapid and far-searching intellectual vision which travels into regions far beyond the common ken of man, visible and appreciable only to the eagle glance of an almost prescient inquirer.

The history of such a man cannot fail to present numerous points of interest. The investigation of the rise and progress of a mind which has ever been foremost in the ranks of science, must afford many good and useful lessons. No fitful glare can be recognized in this life—no charlatanic attempt to pluck a crown of laurels which was not deserved; but a stern, conscientious, and faithful continuance of patient scientific toil, and the solid reward of a vast reputation.

The first step in Dr. Marshall Hall's education was taken at Nottingham Academy, then conducted by the Rev. J. Blanchard. From this school he went to Newark, where he acquired some elementary medical and chemical knowledge. But the first salient point in the life of Dr. Marshall Hall was his matriculation at Edinburgh University, in the year 1809. For a vigorous and apt mind, no better school could then have been chosen. In the present day it is hardly possible to realize the enthusiasm which inspired Edinburgh at that time. There were giants in those days. Enthusiasm, indeed, is almost too tame a word. There was a furor, an excitement produced by the united influence of a complete galaxy of talent. It was impossible but that such men as Cullen, Home, Rutherford, Gregory, Hamilton, Bell, and Barclay should kindle in the ardent minds of a vast concourse of students a flame which should burn with answering brightness to their own. From the school of that time we know many great men have sprung. It is unnecessary to particularize names which are "familiar in our mouths as household words." In that genial atmosphere, then, did Marshall Hall first imbibe that enthusiastic love of science which has been his most marked characteristic. With youthful impetuosity he plunged into the study of chemistry. Not content with merely assimilating the accepted doctrines of the science, he boldly endeavored to push its boundaries farther. With wonderful power of generalization for so young a man, and with such small materials as then existed for the purpose, Dr. Marshall Hall pointed out that there was a grand distinction between all chemical bodies, which ruled their chemical affinities. He showed that this distinction was the presence or absence of oxygen. That oxygen compounds combined with oxygen compounds, and compounds not containing oxygen with compounds similarly devoid of that element; and that the two classes of compounds did not combine together. He believed that this general law would elucidate other chemical doctrines, and might prove valuable in the prosecution of still more recondite principles. But a mind of such soaring aspirations was not likely to confine itself even to such a comparatively wide field as chemistry. The vast domain of medicine was before our stu-

dent, rich in unexplored regions, abounding in all that could excite his eager spirit of inquiry, and reward his love of definite results. It was exactly at this period in the history of modern medicine that physicians were taking stock, as it were, of their old principles. Morbid anatomy, pursued in close connection with clinical medicine, was showing the defects of diagnosis. With the sagacious eye of one who was capable of seeing that the great necessity of the day was a science of diagnosis, Dr. Marshall Hall threw himself into the prosecution of this immensely important department of medicine at once. Here again we find fresh evidence of his eminently progressive spirit. No mere systematizing of what other men had gathered, but an original and comprehensive treatise resulted from the labors of his student life and early years in the profession.

In 1812 Marshall Hall took his degree of M.D., and shortly afterwards was appointed to the much-coveted post of house-physician, under Drs. Hamilton and Spens, at the Royal Infirmary of Edinburgh. In the following year we find Dr. Hall lecturing on the Principles of Diagnosis to a class, amongst whom were Dr. Robert Lee and Professor Grant. It was from this course of lectures that the treatise on Diagnosis, which was first published in 1817, took its origin.

In 1814 Dr. Marshall Hall left Edinburgh, after a residence there of five years. Great as was the individuality of this remarkable man, we cannot but point out that he was reared in a great school, taught by great men, and infected with an enthusiasm which pervaded, in some degree, all who came within its magical circle. Before entering upon his career as a private practitioner, Dr. Hall determined to visit some of the continental schools. We find him, therefore, shortly after his departure, successsively at Paris, Berlin, and Göttingen. The journey was made partly on foot, and armed. At Göttingen Dr. Hall became acquainted with Blumenbach.

In 1815, Dr. Marshall Hall settled at Nottingham as a physician, and he speedily acquired no small reputation and practice. After a time, the appointment of physician to the General Hospital there was conferred upon him, and in that sphere he labored until his removal to London, about ten years after his first settlement at Nottingham. Of his work on Diagnosis it is almost unnecessary for us now to speak in terms of praise. Comprehensive, lucid, exact, and reliable, this work has, in the main, stood the test of forty years' trial. A better has not been produced. It was at this period of his career, too, that Dr. Hall made his researches into the effects of the loss of blood, the result of which was embodied in a paper read before the Royal Medical and Chirurgical Society in 1824. This paper and another in 1832, detailing Dr. Hall's "Experiments on the Loss of Blood," were published in the "Transactions of the Royal Medical and Chirurgical Society." It is hardly possible to overrate the importance of these inquiries. They revolutionized the whole practice of medicine. A new light broke in upon the medical world. A distinction, not recognized before, was drawn between inflammation and irritation. It was pointed out that delirium and excitement were by no

means necessarily declaratory of cerebral or meningeal inflammation, or even congestion. Loss of blood was shown to be at the root of much that had passed before for various grades of inflammation. Practical rules were deduced both for treatment and diagnosis. It was shown that active inflammation produced a tolerance of bleeding from a free opening in the upright posture ; and the rare merit of supplying at once a rule of treatment and a rule of diagnosis was Dr. Marshall Hall's. Other works came forth from his pen about this time, for his mind was teeming with ideas, and his activity as an observer was unparalleled. It is hardly possible to enumerate all, but in 1827 came the "Commentaries upon various Diseases peculiar to Females"—a work which may still be consulted with advantage.

It was in 1826, that Dr. Marshall Hall sought this great metropolis as the umbilicus of the world. So active and earnest a mind could not find enough to satisfy its eager cravings in a provincial town. It was here, in this mighty city, that he determined to measure himself again with numerous competitors, and to win, if possible, all the honor and all the rewards that fortune can give to those who woo her stoutly. The mind of this great man was essentially metropolitan and liberal. A fair field and no favor, and victory to the strongest, were the characteristics of his mind.

The next onward step in Dr. Marshall Hall's career was a series of researches into the circulation of the blood in the minute vessels of the batrachia. A great step in physiology resulted from these. It was shown that the capillary vessels, properly so-called, are distinct absolutely, both in structure and function, from the smallest arteries or veins ; that the capillaries, or *met hæmata*, are the vessels in which the nutritive changes in the economy are carried on.

But the great source of Dr. Marshall Hall's honor, the basis upon which his fame must rest in all time to come, was yet undeveloped ; his paramount claims to the admiration of his contemporaries and of posterity consists in his discoveries concerning the nervous system. Like all really important discoveries in natural science, those of Dr. Marshall Hall have had great practical effects. The soundest theory has been shown to be the best foundation for practice. That stupid heresy, that there is a vital distinction between the practical and theoretical man, was never more completely disproved than in the case of Marshall Hall. But we must endeavor to trace the progress of his researches. While engaged on the Essay on the Circulation of the Blood, it happened that a triton was decapitated. The headless body was divided into three portions : one consisted of the anterior extremities, another of the posterior, and a third of the tail. On irritating the last with a probe, it moved and coiled upwards ; and similar phenomena occurred with the other segments of the body. Here, then, was a great question. Whence came that motor power ? To set at rest that question, to solve that problem, has been the great labor of Dr. Marshall Hall's life.

The establishment of the reflex functions of this spinal cord ; in

short, the whole of the excito-motor physiology of the nervous system is the sole work of Dr. Marshall Hall. And not only this, but he has shown that there are in reality THREE great classes into which the various parts of the nervous system resolve themselves ; the cerebral, or sentient-voluntary ; the true spinal, or excito-motor ; and the ganglionic. This was the real unravelling of that perplexed and tangled web which none had before been able to accomplish. The true idea of a nervous centre could never be said to have existed before the time of Marshall Hall. The ideas of centric and eccentric action, of reflexion, &c., so necessary to the comprehension of nerve-physiology, were unknown before the labors of this great discoverer. But these physiological discoveries were not mere barren facts. How rich a practical fund of therapeutical measures naturally follows the physiology and pathology of the excito-motor system, every well-informed physician can testify. Two departments of medical practice have gained incalculably. The success of Dr. Marshall Hall in the treatment of nervous diseases was almost entirely the result of a rigid application of his own physiological discoveries to their pathology and therapeutics. Obstetricians have found their art elevated more than any other branch of medicine. In the place of uncertain and empirical rules, there are now definite and scientific principles upon which to fall back, with the unhesitating assurance that they will stand in good stead. The most complicated of all physiological acts, viz : the act of parturition, has, by the aid of the excito-motor system, been unravelled and reduced to beautiful harmony, if not simplicity. In like manner, many of the diseases of pregnancy are explained and illuminated by the same physiological knowledge. Innumerable symptoms of other diseases are rendered intelligible and rational, which before were obscure and empirical. But to follow out the influence of Dr. Marshall Hall's discoveries through their numerous and important ramifications would be almost to write a volume on the principles of medicine. It is impossible to say when we shall cease to find some new and important application of his discoveries to the great art of healing.

We cannot pass by this period of Dr. Marshall Hall's life without remarking upon the disgraceful treatment he received from the Royal Society. The days of persecution had happily passed by, but the day of dull obstructiveness still remained. The Royal Society thought Dr. Hall's memoir "On the True Spinal Marrow and the Excito-Motor System of Nerves" unworthy of publication ! So much for the acumen of this Society. A very different verdict has, however, been given since by the great body of scientific men ; and the Society, which formerly received this great man's contribution coldly, now mourns the loss of its brightest and most illustrious member.

Since the promulgation of his researches upon the nervous system, Dr. Marshall Hall has been principally occupied with extending, applying, and developing them in every possible direction. The admirable success with which he indoctrinated the profession at large with his views must be attributed as well to his native lucidity as to their inherent truth.

During the time of Palmer's trial, it occurred to Dr. Hall to institute a physiological test for the recognition of strychnia. As if to show the absolute correctness of his views, and how unlimited were the number and nature of the scrutinies they would bear, he found that a frog, immersed in water containing the $\frac{1}{30000}$ part of a grain of strychnia, would, in process of time, be thrown into tetanic convulsions. For the details of these experiments we must refer to the *The Lancet* of last year. The physiological test was found to be far more delicate than the chemical. Here was an instance of sagacity and precision of thought which would have done credit to any man in the flower of his age.

The last and crowning effort of Dr. Marshall Hall in the cause of science and humanity has been his discovery of what is now universally known as the "Marshall Hall Method" of restoring asphyxiated persons. How completely and irrefragably he has proved the inutility and danger of the practices hitherto in vogue for the resuscitation of asphyxiated persons! Space prevents us from going into the theoretical details of Dr. Marshall Hall's method; but our columns have, for any time these last six months, contained overwhelming proofs of its *truth* and adaptation to practice. It is pleasing to find that this last labor of a great mind has been a labor of love, something added to the stock of human happiness, something taken away from the bitterness of life. It is singular enough that in the very place where Marshall Hall has drawn his last breath, two cases have lately occurred illustrating the superiority of the "Marshall Hall Method" over the empirical rules of the Royal Humane Society. In one case of drowning the warm bath was administered; in another, the "Marshall Hall Method" was resorted to: in the first case death was the result; in the second, restoration to life. It is also remarkable that in this number of our journal should be recorded three more examples, illustrative of the successful application of the "Marshall Hall Method" of treatment. It is curious, too, that one of them should have occurred at Nottingham.

In the practice of his profession, Dr. Marshall Hall was very successful. He linked himself early and resolutely to a great subject, and rose into fame upon his development of it. He realized an ample fortune as the reward of a life of unremitting toil. We do not mean to imply that competency was hardly earned under such conditions. Such a man would have been less than happy in a different sphere. Labor was to his restless and indomitable spirit a necessity. Even now, when we are recording the death of this illustrious and lamented physician, there is a volume in the press,—a recent effort of his prolific mind; and until within two months before his dissolution, the mental energies of this extraordinary man were engaged in preparing for publication, in *The Lancet*, a series of papers, entitled, "The Complete Physiology of the Nervous System."

It is somewhat remarkable that Dr. Marshall Hall never held the office of physician in an hospital in London. He was only physician to a dispensary for a short time. He lectured at the Aldersgate-

street and Webb-street School of Medicine, and also at St. Thomas's Hospital Medical School. He was a candidate for the Professorship of Medicine at University College upon one occasion; but owing, it is believed, to some improper influences, matters assumed such an aspect as to induce Dr. Hall to retire from the field.

We have thus far considered Dr. Hall as a man of science. In other relations of life he was equally deserving of our highest respect. As a politician, he was liberal in the highest degree. He was a strictly moral man, and was deeply imbued with a sense of the obligation of a *practical* cultivation of religion. That which he thought right to do, he *did*, with unswerving honesty and courage. All subterfuge, trickery, quackery, and guile, were utterly foreign to his nature. So simple and childlike was he in disposition, as hardly to be able to imagine in others the guile which had no home in his own breast. He was a kind husband, a most indulgent father, and a faithful friend. He married, in 1829, Charlotte, second daughter of Valentine Green, Esq., of Normanton-le-Heath, Leicestershire. Mrs. Marshall Hall's maternal grandfather was M.P. for Shaftesbury, and son of Dr. Cromwell Mortimer, physician to the prince of Wales, father of George III. Throughout the protracted illness of Dr. Marshall Hall, the assiduous, devoted, and unremitting attentions of an affectionate wife were probably never surpassed. This testimony is due from personal observation of the fact. The deceased has left one son, who has relinquished the profession for the rural life of a country gentleman.

We must now close our notice of one over whose name we would fain linger. Melancholy as it is to say he *was* amongst us, our sorrow is stayed by the reflection that he did not live in vain. All that a grateful profession has to give to his memory will be given. We shall still think of him with affectionate respect as a Father in medicine, but as a child in the purity and simplicity of his mind. Though no title has adorned the name of the great Marshall Hall, we who are left behind will esteem him as one who would have graced rather than have been graced by honors however exalted. The *title*, which he preferred beyond all others was that of the English physiologist.

The mortal remains of this distinguished man were, on Wednesday last, removed from Brighton to Nottingham, where, we believe, a post-mortem examination has been made by his brother-in-law, Mr. Higginbottom, his nephew, Mr. Higginbottom, Jr., and Dr. Ransom, physician to the Nottingham General Hospital. It is believed that the death of Dr. Marshall Hall was caused by exhaustion produced by a stricture of the œsophagus of many years' standing, accompanied latterly, it was considered by many eminent surgeons, with malignant ulceration of the part. Dr. Alfred Hall, of the Old Steyne, Brighton, was one of the chief medical attendants of the deceased in his last illness. Sir Benjamin Brodie had long since pronounced the malady from which Dr. Marshall Hall was suffering to afford no hope of the application of any permanent remedy.

—The course taken by Dr. Uhl in the trying position in which he was placed by Mrs. Cunningham, has given rise to several interesting and important questions as to a physician's duty under similar circumstances. As they are of general interest, we offer these thoughts upon them.

It is a rule with medical men, to keep inviolable all secrets communicated to them professionally—that is, which it has been necessary for them to know in order to save their patient's life or to restore him to health. The decisions of the Courts do not support physicians in this position, but compel them to divulge those secrets when asked for under oath, provided it is necessary for promoting the ends of justice. Notwithstanding this, medical men do frequently and absolutely refuse to communicate their knowledge thus obtained, even when such refusal is followed by personal inconvenience and suffering. It is on this ground that some physicians maintain that Dr. Uhl's course was dishonorable. But the facts in the case do not bring this under the head of professional secrets. It was attempted by Mrs. Cunningham to obtain his services as an accomplice in an offence against property. She desired to obtain the two-thirds of Burdell's estate, which, as his widow only, she could not obtain, by professing to give birth to a child which should be passed off as his heir. If that child lived but an hour, it would inherit the remainder of the estate which did not come to her, and after its death, she would, as the child's heir, receive it, thus obtaining the whole property. It was not necessary for her to make this communication to Dr. Uhl, in order that she might be cured of some disease, or that he might more fully understand how to relieve her from suffering, but it was simply a proposition to him to lend to her for a consideration the use of the facilities and opportunities which, as an honorable physician, he possessed, for carrying out her purpose. It is just such a case as a burglar, unable to pick the lock of a door which he wished to enter for the purpose of committing a robbery, proposing to a servant of the house, for a certain sum, to put the key where he could get it, and to accomplish his purpose. If this servant was an M.D., it would be no professional secret; neither was Mrs. Cunningham's because she made it to a physician. The proposition might just as well have been made to a blacksmith, or tailor, or carpenter, so far as anything appears, if he had been as likely to know where to obtain a baby at the right time and of the right age. The case would have been very different if Mrs. Cunningham had sent for Dr. Uhl a year after Dr. Burdell's death, and told him that she was about to be delivered of

a child, and it was necessary for her reputation that it should not be known. This would have been a confidence of necessity reposed in him, that she might be saved from the consequences of her previous sins, and would, of necessity, be made to a physician, that he might treat her skilfully, and could not as well be made to any one else. Undoubtedly, in such a case, Dr. Uhl would have cared for her, and secured the child its rights ; but, at the same time, would have kept the secret locked in his breast. But, as we have shown, the proposition made to him was widely different, and can in no way be construed into a professional secret.

The only question which remains is as to the course pursued by him after the proposition was made to him. Let us return to the illustration of the burglar and the servant whom he attempts to bribe. After the proposition is made the servant thinks of it, and upon consulting those whose opinion he is authorized to respect and rely upon, it is determined that he shall appear to assist the burglar, who is believed to be very adroit, by placing the key as desired, while officers are so stationed as to identify him, and to secure him just as he puts out his hand to reach the coveted prize. Could any blame be justly laid upon the servant for his apparent connivance with the burglar, in order that he may be detected ? Would it not rather be true that the thanks of the community would be due to him for protecting them from the scoundrel ?

Precisely so are the thanks of this community due to Dr. Uhl for pursuing the course which he did. Prudently consulting with those whose opinion was most reliable, he finds entire unanimity of advice as to the duty which devolves upon him, and goes forward to perform it, with entire disregard of the personal considerations which might well have deterred him from it. He did not urge her to commit the offence, but, we may say, without improperly violating confidence, that he did, for a long time, endeavor to dissuade her from it, and when this was found ineffectual, took measures to prevent her committing it, in such a way that justice could not detect it. Suppose he had done otherwise, what would now have been the condition of affairs. According to the theory of those who say this was his duty, he would have kept profound silence upon the overtures. There would have been no difficulty, we regret to say, in obtaining the services of a doctor who, for a thousand dollars or less, would have done all that Dr. Uhl was asked to do, and the other heirs of Dr. Burdell would, by his agency, have been cheated out of their portion of his estate. We are safe in saying that it would not have been possible

to have detected the fraud. Or if Dr. Uhl had remained in attendance without calling the police to his aid, who would have believed his testimony that the child was suppositions, when Dr. Catlin, the sister, the nurse, the daughters, and the friends, would all have sworn that it was not so, but a true and genuine production. Dr. Uhl's position was indeed a trying one, but he has acquitted himself manfully in it, and the thanks, not only of the medical profession, but of the whole community, are justly due to him for aiding the officers of justice so efficiently, though at so great a personal sacrifice.

— M. Sestier, one of the most distinguished of the young physicians of Paris, died recently of apoplexy. M. Sestier was the author of a valuable work on Œdema of the Glottis, which was published in 1852, and was engaged at the time of his death upon another remarkable contribution to science upon the effects of lightning. A pupil of Chomel and Louis, Dr. Sestier was a partisan of the numerical method. His published works are eminently statistical, and, while they are examples of this school worthy of his illustrious teachers, they show the great labor and research necessary to render works of this kind useful and reliable.

M. Civiale's Munificent Gift.—The profession throughout Europe are fully acquainted with the great services rendered by M. Civiale in reference to urinary diseases in general and lithotritry in particular. A fact less known, however, is that wards were set apart at the Hôpital Necker, now several years ago, for the treatment of calculous cases, M. Civiale, though not an hospital surgeon, having the care of these wards. (If we are not mistaken, something of the kind exists at the Westminster Hospital.) M. Civiale's services have always been gratuitous, whilst the members of the staffs of all the hospitals of Paris are remunerated, though very scantily. That the practice of lithotritry has immensely gained by the founding of these wards, and that a great number of indigent sufferers have thus been relieved, does not admit of a doubt; but many difficulties were, nevertheless, thrown in M. Civiale's way by the authorities of the hospital, owing to his unofficial position. Little daunted by these drawbacks, M. Civiale has pursued his career of usefulness; and, anxious that lithotritry should be officially practised after his death, he has, with the consent of the managing body of the hospitals of Paris and of still higher authorities, founded, at his own expense, a surgeoncy in the Hôpital Necker, remunerated, for the special purpose of continuing the practice of lithotritry in the wards above alluded to, when the great originator of this valuable operative measure shall have been gathered to his fathers. Thus is the fortune accumulated by lithotritry made to serve the cause of humanity and the advancement of the operation itself. M. Civiale deserves the thanks and good will of all his professional brethren for this munificent act.

—*London Lancet.*

THE AMERICAN MEDICAL MONTHLY.

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ESSAYS, MONOGRAPHS, AND CASES.

Lesions of the Epiglottic Cartilage. By HORACE GREEN, M.D.
LL.D., &c.

The epiglottis is subjected to lesions which not only interfere with the functions of this organ, but which are often the exciting cause of general disease,—sometimes of a serious character.

Some of these morbid changes occur much more frequently than we have been accustomed to suppose; and the symptoms to which they give rise are often erroneously attributed to organic disease of the lungs, or to other structural changes which do not exist.

Anatomically viewed, the epiglottis is a fibro-cartilage of an ovoid form, and of a tissue very elastic. It is covered by a mucous membrane which consists of a ciliated epithelium externally, and beneath, this a basement layer which is the true membrane, and a quantity of areolar tissue, all abundantly supplied with blood-vessels.

Scattered over the surface of this lining membrane, and situated in the sub-mucous tissue, are numerous follicular cells, many of which have the openings of their excretory tubes on the laryngeal face of this cartilage. One of these glands, which is composed of several granules, is located between the epiglottis and the os hyoides, and is called the *epiglottic gland*. On the laryngeal face of the epiglottis, the mucous membrane adheres closely to the cartilage; there being

no areolar tissue whatever interposed between the lining membrane and the cartilage. Beneath the mucous membrane on its anterior or lingual surface, considerable areolar tissue is deposited. Disease, therefore, affecting this fibro-cartilage must have its seat, either in the mucous membrane or its follicles, or in the subjacent areolar tissue. We find, accordingly, the principal lesions of the epiglottis to be :—

1st. *Erosions* or *abrasions* of its mucous membrane.

2d. *Ulcerations* of the membrane and of its glands.

3d. *Œdema*, or *infiltration* of its areolar tissue.

These alterations of structure occur, with regard to frequency, in the order in which they are named.

Some of the erosions and ulcerations of the epiglottis to which I propose to call attention, (a portion of them) are entirely independent of those described by M. Louis as lesions proper to phthisis, which he found were present in about one-sixth of his patients who died of this disease ; and were caused, in the opinion of M. Louis, by the constant passage of pus over the mucous membrane.

In many instances I have found these structural alterations to occur as primary and independent affections, so far as tubercular disease is concerned. In other cases they are not only complicated with similar lesions of the tonsils, fauces, and pharynx, but are occasionally associated with tuberculosis.

1. *Erosions of the mucous membrane of the Epiglottis.*

Prof. Hasse, who describes quite minutely those erosions of the mucous membrane of the air-passages, first pointed out by Louis, as alterations peculiar to phthisis, says that these lesions always remain superficial ; the upper layer of the mucous membrane, probably the epithelium, being alone engaged. They are seen in certain localities, as the inferior surface of the epiglottis, the posterior surface of the trachea, and occupying the mucous membrane of the two main bronchi.

“These erosions,” continues Prof. Hasse, “are obviously the sequence of superficial irritation of the mucous membrane ; and as they are principally met with in parts which come in contact with tuberculous matter expectorated from the lung, they not improbably owe their existence to this source.”*

M. Trousseau entertains a similar opinion ; for, in speaking of these lesions as described by M. Louis, he remarks : “We have never found erosions except in patients attacked with pulmonary phthisis, which

* Pathological Anatomy, pp. 357-8.

observation would seem to justify the opinion of M. Louis, that these erosions are owing to the contact of pus which is constantly passing over the mucous membrane of the larynx and bronchi.* The same opinion with regard to the origin of these lesions is expressed by Andral and Cruveilhier; and more recently by Ryland and Gellerstedt. Indeed, most writers on the pathology of "diseases of the air-passages," since the promulgation of this doctrine by M. Louis, have adopted, and have copied into their writings,—some of them, apparently, without any personal investigation,—these views of the origin of erosions and ulcerations of the epiglottis and larynx.

Both Hasse and Rokitsky describe another form of superficial erosions which occur in certain cases of *typhus fever*, and are found seated "on the posterior wall of the larynx; on the lateral edges, and on the inferior surface of the epiglottis," where they present at first a roundish or lenticular form, with black or discolored edges; and which, often, change gradually into dirty eating ulcers.

During the past few years a large number of cases of erosions of the epiglottis have been noticed among my patients, occurring under circumstances altogether different from those under which they were observed by the above pathologists. They have generally been noticed as being complicated, either with follicular inflammation, or associated with catarrhal irritation of the mucous membrane of the respiratory passages, but in a large majority of cases entirely independent of tubercular disease.

During the last Winter and Spring, especially, a much larger number of cases has occurred, of erosions and ulcerations of the epiglottis, than had been observed during any previous season.

These instances, for the most part, have been found occurring in those cases, in which a persistent, teasing cough following chronic follicular disease, or common catarrhal inflammation, has obstinately resisted all the ordinary measures for its arrestment.

On depressing the tongue in such cases, by means of the ordinary bent spatula, or "tongue depressor," so as to bring the epiglottis into view, this cartilage has been found frequently inflamed, vascular, and its superior border marked, at one or more points, by distinct erosions. In much the largest proportion of cases, these erosions make their first appearance on the left superior edge of the epiglottis.

Next in frequency they will be found occupying its centre; and occasionally, but very rarely, in comparison with the two preceding

* Treatise on Laryngeal Phthisis, &c. By Trousseau & Belloc. p. 20.

locations, they have been observed on its right border. These erosions are not readily detected, at first, by the inattentive observer; as they are quite small, are only slightly depressed, with a pallid base, sometimes a little reddened, and with whitish, linear edges.

The surrounding mucous membrane is generally inflamed, its delicate network of superficial vessels is red and injected, and the epiglottis itself more or less thickened. The appearance and effects of these erosions may be still further illustrated by the following case :—

CASE I.—I. H., a lawyer, from Virginia, and late State's Attorney, consulted me, May 28th, 1856. He had been affected nearly two years with chronic follicular disease of the throat, for which he had received both topical and general treatment, and had been greatly relieved.

Some six weeks or two months before his visit to New York, a severe cough came on, and was, after a time, attended by a free (apparently) bronchial expectoration, a cough which resisted all the ordinary means employed for its relief. His chest, which was remarkably well developed, was carefully examined, without detecting any signs of pulmonary or bronchial lesions. On examination, the throat revealed some remains of the follicular disease, but nothing sufficient to account for the symptoms present. Indeed, as no cough had existed when the throat was in its worst condition, it could not be attributed to the presence of follicular disease, which appeared to be confined to the upper part of the throat.

In pursuing the investigation, the tongue of the patient was forcibly depressed so as to bring the epiglottis into view, when this cartilage was found to be inflamed and thickened, its mucous membrane red and vascular, and its left superior border covered with erosions.

The patient at this time was harassed by a constant cough, which was attended by an abundant expectoration, and this had been his condition for many weeks.

It will not be supposed that these erosions of the epiglottis were the whole cause of this cough, and of the expectoration. I had seen at this time, and have since seen frequently, cases with these erosions present, unattended by any great amount of cough; but a cough once established, from any cause, and these lesions supervening, I have never seen a case in which this symptom did not obstinately resist all ordinary measures, so long as the *erosions* continued. These means having been fully employed in this case, the indication

seemed to be to check the irritation caused by the erosions. To accomplish this, the tongue was depressed so as to bring the epiglottis into view, and with an instrument prepared for this purpose, the erosions were touched with the solid nitrate of silver, whilst the body of the cartilage was freely sponged with a strong solution of the same remedy. This was done on the 28th of May, and the operation was repeated two days afterwards, and was followed by a most happy result. The cough was greatly diminished by the first application ; and on the 31st, the day after the second application, the patient called, and reported himself almost entirely free from cough and expectoration. A few more applications of the solution were made to the affected parts, in the course of the subsequent week, and Mr. H. returned to his home, apparently entirely free from the unfavorable symptoms with which he came.

I have stated that some lesions of the epiglottis occur with much greater frequency than the profession have been accustomed to suppose. This is certainly true with regard to these erosions. Within a few months quite a number of physicians have brought or sent their patients to my office for examination, who were suffering from a severe cough, and were apparently laboring under bronchial or laryngeal disease, for the treatment of which both general and topical measures had been unavailingly employed by these practitioners. In many of these instances the persistent cough was found to have been kept up by the presence of undetected erosions of the epiglottis ; for in nearly all such cases, the arrestment of these lesions was found efficient in promptly relieving the cough.

Several most interesting cases have come under my notice, in which the disease has occurred among physicians themselves.

In one instance a young physician was brought to my office by his friend, an older physician of this city, under whose care and treatment the patient had been for several weeks before I saw him. But inasmuch as a severe and obstinate cough, attended with free expectoration and with pains in the chest, continued to harass him, further aid was sought by both patient and attendant.

On examining the chest and finding no evidence of lesions there, sufficient to account for the symptoms, the throat was inspected, and the patient's epiglottis was found to be twice its natural thickness, was highly vascular, and its entire superior border covered with erosions.

In this case, the principal erosion occupied the *right* superior lateral border of the cartilage, and the doctor was constantly referring

to the right side of his throat as the seat of the greatest amount of irritation. His cough had been very severe for nearly two months, and was attended with much expectoration and with more or less pain in the chest. He had consequently suffered much anxiety about the safety of his lungs.

Canterizations of the border of the epiglottis, with the solid crystal of the nitrate of silver, gave almost immediate relief. The cough and expectoration began to subside, as soon as this remedy was employed. After a few applications of the solid nitrate, a strong solution was employed, and was applied every few days, for several weeks, not only to the border of the epiglottis, but also to the whole body of the cartilage. Under this treatment, the patient recovered perfectly.

Although, in almost all cases, lesions of this nature are promptly relieved by cauterizations, yet, in some instances, I have observed a marked tendency in the disease to return, whenever the patient was exposed to the ordinary causes of catarrh. In July, 1855, Dr. Bowen, of Jeffersontown, Virginia, brought his sister, a young lady, to New York, for medical treatment. Miss B. had many of the early symptoms of phthisis, for the treatment of which the ordinary remedies had been long employed by her brother. Complicated with chronic follicular disease, erosion of the epiglottis was found present, and this lesion proved to have been the principal exciting cause of a long continued cough; for, after a few applications to the diseased parts the erosions disappeared, and the cough ceased altogether. On taking cold a few weeks after, the cough returned, with nearly as much severity as at first; and when the epiglottis was examined, it was found to be again eroded. The topical applications were once more successful in affording prompt relief. Miss B. remained three or four months in this city, and during that period, she had several severe attacks of cough, and in every instance erosions of the epiglottic cartilage were ascertained to exist, and these were always removed, and the cough arrested, by topical medication. She, however, ultimately, quite recovered.

Under the head of erosions, I will allude to only one other instance of this affection. It is a case of much interest, as it occurred in an elderly physician of this city—a member of the Academy, and a gentleman well known to most of its fellows.

This physician came to me early last Winter, expressing much anxiety about his case. He had had an obstinate cough for several months; had employed in his own case, he said, all the ordinary

means which he had been accustomed to use with his patients ; but had found no permanent relief. He had only slight expectoration, but an harassing dry cough. Sometimes the cough would occur in paroxysms, and with great severity.

The Doctor was confident the irritation was seated in the larynx, and as he had himself applied topical remedies to his own throat for some time, he desired that the sponge-probang should be carried down to the superior portion of the larynx.

This was done, on several occasions, and was followed by considerable relief ; but still the cough continued, and was always greatly aggravated by exposure to cold, and by the vicissitudes of the weather.

In the meantime, the Doctor's epiglottis had not been examined, because attention having been called so directly to the larynx, as the seat of the disease, this organ had been overlooked. It was now inspected, and found in an inflamed and thickened condition ; its delicate network of vessels was red, and highly injected, and its border eroded.

Applications made to this organ, as in the preceding cases, gave prompt relief, and for a time Doctor M. thought his disease was removed. But he soon found that on every slight exposure to cold, his cough was sure to return, and that too, after the epiglottis appeared to be in nearly a healthful state. As the applications now only afforded temporary relief, they were for a time suspended. Irritation in the throat soon became more harassing than ever ; and on the 20th of March, Dr. M. called and declared that for several days and nights his cough had been almost unbearable—that he had coughed every five minutes night and day, and that neither expectorants, nor anodynes, gave him any relief.

The Doctor had given much attention to his own case, and he expressed the opinion that the same irritation that affected the epiglottis had extended along its lateral border, to the aryteno-epiglottic folds, and that erosions or ulcerations in this location, were causing the incessant cough.

This opinion could not be confirmed by inspection, as in the case of erosions of the border of the epiglottis, for these epiglottic folds are concealed from view, behind this cartilage ; they can be reached, however, by topical applications, and at the patient's request, I applied, by means of a small sponge-probang, a strong solution (50 grains to the oz. of water) to the membranous folds, extending from the base of the epiglottis, to the arytenoid cartilage, which folds form

the lateral borders of the aperture of the glottis. The relief was immediate. Before this application, the great irritation at the opening of the glottis had caused an almost incessant cough, for forty-eight hours. For several hours succeeding the operation, the Doctor declared that he did not cough once, and the following night with him was one of quiet sleep.

The prompt relief which a single application of the caustic to an irritated and eroded epiglottis will sometimes afford, has often been with us a matter of great surprise, as well as of gratification.

Within a few weeks, a gentleman came to New York from St. Louis, who had been treated several months by a skilful and eminent physician for chronic follicular disease. Frequent applications of the nitrate of silver solution, had been made to the fauces and pharynx of the patient, and with much benefit, so far as the disease of these parts was concerned. Still, the patient complained of great irritation, at the top of the wind-pipe ; and, following the advice of his physician, he consulted me.

An examination of his case revealed an epiglottis inflamed, and considerably thickened at its apex, with an erosion directly in its centre. A single free application of the solid nitrate of silver at this point gave, for a time, entire relief, and these applications being repeated daily for a few days, removed permanently a tickling and an irritation that had continued, and had caused a cough for many months.

In some instances the erosion will occupy all the superior edge of the epiglottis. I had an opportunity of exhibiting a case of this nature to Dr. A. H. Stevens, and to the chairman of that committee which was appointed by this Academy, a year or two ago, to visit me on another subject. It was the case of a lady from Rhode Island, who, for a twelvemonth or more, had labored under a severe spasmodic cough, occasioned, as her physician supposed, by chronic follicular disease. In this instance the entire superior border of the epiglottis was covered by a linear erosion. It was a well-marked instance of this lesion, and these gentlemen may remember the case.

So far as my observation goes, these erosions are of rare occurrence in very young persons. To one such instance, however, I will briefly allude, as it is a case of much interest.

Some time ago, Mr. J. Hurlburt, a merchant of this city, brought one morning to my office his young daughter, a child some five or six years of age, who, as the father stated, had had a cough for several weeks, for which the family physician, who is an experienced practi-

tioner and a member of the Academy, had prescribed many of the ordinary remedies. Still her cough increased, and for several days preceding her visit to my office, had harassed her night and day, until the child was nearly worn out with the increasing irritation—an irritation which the patient constantly referred to the throat. Suspecting the nature and locality of the irritation, I attempted to examine the throat; the fauces and pharynx were inflamed, and although it was difficult to bring the epiglottis into view, so as to decide positively that erosions were present in that location, yet the symptoms were so like those which had occurred in other cases where erosions of this cartilage were found, that I ventured to make a free application of a strong solution of the nitrate of silver to the epiglottis. The result confirmed the diagnosis; the cough ceased immediately after this single cauterization; nor was there any return whatever of this symptom thereafter. This occurred many months ago, and within the present week Mr. Hurlburt assured me that his daughter “had not coughed since that visit to my office.”

The announcement of the great frequency with which these lesions which we have been considering occur, will, I doubt not, surprise the profession.

Since my attention has been called to their existence, I confess I have been amazed, not only at the number of cases in which they have been found, but at the occasional severity of the symptoms caused by these apparently insignificant lesions, and the frequency with which these symptoms have been attributed to other causes.

I am indebted to my assistant, Dr. Richards, who has kept a careful record of these cases, for an account of the number of instances in which, during the last twelve months, erosions of the epiglottis have been observed.

Of four hundred and two patients affected with some form of disease of the respiratory passages, who were examined and treated between the 1st of May, 1856, and the 30th of April, 1857, there were found thirty-four instances of well marked *erosions* of the epiglottis. Of this number twenty-one cases occurred in males, and thirteen in females. In upwards of twenty of the above cases, these lesions existed entirely independent of tubercular disease.

2. *Ulcerations of the Mucous Membrane, or of the Glands, or of the Epiglottis.*

It is important to understand the pathological differences, if any exist, between erosions and ulcerations of the mucous membrane. M. Louis, in describing the lesions of the mucous membrane of the

epiglottis and larynx, in phthisis caused by the contact of tuberculous matter, speaks only of *ulcerations*. He undoubtedly considered *erosions* as but the first degree of ulceration, for he remarks that some of these ulcerations escape notice on account of the flattening of their edges, and "their pinkish color," and that "in two cases only did the superficial ulcerations of the epiglottis reach the fibro-cartilage beneath.

Prof. Hasse declares that tuberculous erosions are limited to the epithelial covering, and "hence they are not always detected at first sight, but that true ulceration of the mucous membrane in phthisis presents a notable difference from the above." *

I have watched these lesions with great care, and, however long continued, have found them always remaining superficial.

I have never observed an erosion to degenerate into a true ulceration.

Primary ulcerations of the epiglottis—many instances of which I have observed to exist entirely independent of tuberculous disease—differ essentially, in their anatomical characters, from the erosions of the same organ.

According to Hasse, the tuberculous ulcer, or the ulcer peculiar to phthisis, occurs most frequently in the larynx, but they are found in many instances, observes Hasse, on the posterior face of the epiglottis, and they appear to originate in various ways.

"Tubercle commonly," says he, "accumulates within the capsules of the muciparous glands, elevating the latter into little eminences, and ultimately, when the softening process is completed, leaving corresponding ulcers in their stead."† In other cases, again, tubercle cells, instead of normal cells, form beneath the epithelial covering, and irritating the contiguous textures, produce first, loss of substance, and finally ulcers. But ulcerations of the epiglottis occur, as we have before stated, wholly uncomplicated with tubercular disease of the lungs. I have the record of many such cases, which have been treated within the past four or five years. They have also been found associated with both tuberculous and syphilitic diseases.

So far as I have been able to notice the inception of primary ulcers of the epiglottis, they have seemed to originate in the follicles of the membrane, and not to be the result of erosions.

At first, an enlarged, or pimple-like follicle appears on the border of the epiglottis, surrounded by an inflamed and highly injected portion of mucous membrane. Soon the follicle softens, and degenerates

* Op. citat. pp. 357-8.

† Op. citat. p. 359.

into an ulcer, with irregular edges and an inflamed and reddened circumference.

In many instances these ulcers remain for some time superficial, destroying only the mucous membrane ; in others, they penetrate deep into the fibro-cartilage, and occasionally they result in the total destruction of the epiglottis. Two such instances have been observed by me in which the epiglottic cartilage was completely destroyed by ulceration. To these cases I may allude hereafter.

To the first case of primary ulceration of the epiglottis, which I have on record, my attention was accidentally called. I had no preconceived opinion of any lesions of this nature, except such as Louis, Cruveilhier, and other pathologists, had described, as being peculiar to, and complicated with, tuberculosis—lesions, in short, which have only claimed the attention of the practitioner *after* the death of his patient ; and not such as are the efficient cause of disease, and whose removal will effectually arrest diseased action.

The following is the case to which I refer :—

Several years ago, Mr. E. Bulkley, a shipping merchant, of this city, aged about twenty-five years, applied to me on account of a cough under which he had labored for several weeks. It came on gradually, at first, but latterly had much increased in severity. A careful examination was made to ascertain the cause of the cough. Slight redness was observed about the fauces, but not sufficient to account for the severity and persistence of the most prominent symptom. Not the slightest indication of disease could be found about the chest of the patient. The epiglottis was not inspected, because at this time we were not accustomed to examine this organ for pathological revelations. Indeed, at this period, large numbers of the profession had never seen a *living* epiglottis !

General measures were adopted in the treatment of this case, and for several weeks alteratives, followed by anodynes, expectorants, sedatives, and various other means, were employed to relieve the cough, without producing any permanently beneficial effect. On the contrary, at the end of the third week this symptom was much augmented ; and was attended, moreover, with a free expectoration. The patient was daily losing flesh, and he now began to complain of erratic pains in his chest.

These symptoms alarmed both himself and his friends ; and, urged by the latter, he determined on taking a sea voyage. To inform me of this, his intention, he called about four weeks after he first came under treatment. At this visit I again examined his chest, without

discovering any evidence of thoracic disease. His throat, too, was more thoroughly inspected than at any former time. On exposing the epiglottis to view, I was surprised to find the upper border of this organ occupied by a large ulcer, which had destroyed a considerable part of the superior central portion of this cartilage.

I informed my patient of the discovery, and proposed immediate cauterization. The ulcer was touched with the solid nitrate of silver without producing any pain or irritation whatever! Mr. B. has since frequently declared that his "cough ceased from that hour."

It was not altogether arrested by this single application; but the relief was remarkable. He coughed but little for the next twenty-four hours; and two or three similar applications subsequently made, were effectual in entirely arresting the cough; and my patient regained, rapidly and permanently, his health.

It cannot be doubted, I think, had this local source of irritation been continued, that disease of the lungs, in this case, would have been ultimately developed; and it is equally probable that an ulcer of the epiglottis, discovered after the fatal termination in such a case, would be considered not the *antecedent* and exciting cause of the general disease, but as the *sequent*, and would be classed among the tuberculous ulcers of M. Louis.

In several instances, all the prominent rational signs, with some of the earlier physical manifestations of pulmonary disease have been observed to follow long-continued ulceration of the epiglottis, all of which symptoms have been seen to disappear after these lesions have been healed. Within two years I have treated several medical men with erosions or ulcerations of this cartilage, whose symptoms were such as to have given them much anxiety about the safety of their lungs. I will here give briefly the case of a physician well known to the profession of New Jersey.

Dr. L—— S—— called on me in June, 1855, to consult me about his health. During the preceding year he had been aware, he informed me, of some chronic irritation of his throat, for which he had occasionally applied the nitrate of silver solution. This gave him relief for a time, but three or four months before his visit to me, he began to cough, apparently from an increased irritation in the throat, but this irritation was not now relieved by the cauterizations. This cough, on the contrary, increased in severity, was obstinate, not being much influenced by any measures taken to relieve it. After a time some expectoration accompanied the cough, and these symptoms were followed by uneasy sensations or wandering pains about the chest.

He lost flesh, and his strength diminished. Under these circumstances he determined, as he informed me, to give up his professional duties for a time, and seek to restore his health by a change of climate. It was at this stage of his impaired health that I saw him.

After hearing the doctor's history of his case, and particularly after examining his chest, and finding there no adequate cause for his severe and protracted cough, and other unfavorable symptoms, I suspected the presence of concealed erosions or ulcerations about the glottic or epiglottic regions. His throat was examined ; the mucous membrane of the fauces and pharynx was moderately inflamed, and some of its follicles were enlarged.

With some difficulty the epiglottis was brought into view, when an ulcer, which had destroyed the mucous membrane and had penetrated into the cartilage, was found in the centre of the apex of this organ. I was at once satisfied that the teasing and persistent cough which for several months had so annoyed Dr. S., was kept up by this condition of the epiglottis ; and the result of the treatment adopted confirmed this opinion. The ulcer was well cauterized with the solid crystal of the nitrate of silver, and a strong solution applied to the mucous membrane of the fauces and pharynx. As in the preceding case, this single cauterization arrested the cough ; and although Dr. S. returned several times subsequently and had the applications repeated on account of some remaining irritation, yet no further paroxysms of coughing occurred ; his unfavorable symptoms all disappeared, and he regained a good degree of health, which, I believe, still continues.

I have had an opportunity to exhibit these lesions of the epiglottis to many physicians who had never before seen anything of the kind in the living. Within a few weeks, when honored by a visit from three of the Senior Surgeons of the U. S. A.,—Drs. McDougal, of Baltimore, Finley, of Philadelphia, and Satterlee, of New York,—the case of a gentleman of this city, with a central ulceration of the epiglottis, was exhibited. This gentleman had been affected for two years with a cough, which he compared to the whooping cough, because of its severe and spasmodic character. Topical applications to the local disease in this case arrested the cough in the course of a few days.

When ulcerations occur on the laryngeal face of the epiglottis,—and in the tubercular cases observed by M. Louis, this surface of the organ, and generally speaking its lower half, was their almost exclusive seat,—it will be impossible to detect their presence by ocular

inspection, as you can in those cases in which the border is invaded. I have described elsewhere the alteration which takes place in the aspect of the epiglottis, when that cluster of follicles which is situated at the base of this organ, and which constitutes the epiglottic gland, becomes the seat of ulceration. Its naturally crescentic shape will be considerably increased when ulceration to any extent exists in this location.

In addition to the symptoms which have been enumerated, there is frequently some degree of pain in the larynx when the lower portion of the cartilage is ulcerated, together with more or less difficulty in deglutition. Aphonia is also present, because, generally speaking, there are, coincident with these lesions, at the base of the epiglottic gland, ulcerations in the larynx, and about the vocal chords.

The following case is of much interest, inasmuch as an opportunity was afforded, after treatment, of comparing the lesions with the symptoms which existed during life; and of observing the effects of the treatment employed upon these lesions.

G. H. W. called on me for medical treatment May 10, 1850. His case presented all the well-marked symptoms of Laryngeal Phthisis. There was ulceration of the larynx. Complete aphonia existed, with a severe cough; difficulty of swallowing, with dryness and heat in the throat; some pain was present, which was increased on coughing. On examining the chest there were found indications of the presence of tubercles in both lungs, and evidence of a cavity in the left lung. The throat was inflamed, the epiglottis thickened and vascular, its border serrated with erosions, and its lateral edges approximated, so as to give the cartilage a more crescentic shape than is natural.

It is unnecessary to detail at length the treatment adopted. Both general and topical remedies were employed. Applications of a strong solution of nitrate of silver were made successively to the fauces, the epiglottis—its border and laryngeal surface—to the glottis, and subsequently into the larynx and trachea. The topical treatment was continued daily, or every second day, through the months of May, June, and July.

Under this treatment the patient gradually and constantly improved. He regained his voice, his cough diminished, and his strength and flesh were considerably increased. Mr. W. was absent during the month of August, but he returned in September, and the applications to the trachea being again renewed, and for a time continued, were followed by such an improved state of his health,

that he returned to his occupation, which was that of book-keeper in a large mercantile house of this city. On the first of January, 1851, he called on me. At this time he coughed occasionally, and had some slight purulent expectoration, but he still continued greatly improved. After this I lost sight of him for several years, and knew nothing more of him until informed of his death by my colleague, Dr. H. G. Cox, who has kindly furnished me with the history of his last fatal attack, and of the autopsy of the case.

Until within a few days of his death, Mr. W. had continued to enjoy such health that he was able to attend constantly to the duties of his calling. Dr. Cox, who attended his family, had seen him often, and had occasionally prescribed for him. Early in December, 1853, nearly four years after I first saw and treated him, he had left his place of business, one very cold and windy day, and was returning to his home. Wishing to see a man who lived in the West part of the City, he jumped from the omnibus at Canal street, and ran for some distance, facing a strong cold wind, when he was suddenly arrested by a hæmorrhage from the lungs. He was obliged to be taken home in a carriage. Dr. Cox was sent for, who found him raising, quite frequently, masses of coagulated blood. Every effort was made to arrest the bleeding, but all measures were alike unavailing. The hæmorrhage, which lasted two or three days, continued till the patient died. The body was examined by Dr. Cox. Evidences of former tubercles were found in both lungs, but no recent ones. In the left lung were the remains of a tuberculous cavity; and, opening into this dry cavity, was the mouth of a small ruptured blood-vessel, the hæmorrhage from which had caused the patient's death.

On examining the epiglottis, larynx, and trachea, Dr. Cox found the cicatrix of a large ulcer at the centre and base of the epiglottis; and scattered over the mucous membrane of the larynx and trachea the cicatrices of numerous small, superficial ulcerations were found. All had been perfectly healed.

Knowing that this patient had been under my care several years before (as above detailed), Dr. Cox removed the larynx and a portion of the trachea, and sent the morbid specimen to me. This I still have. By examining this pathological preparation, the marks of the superficial ulcerations along the tracheal membrane may be plainly seen, particularly the cicatrix of the large ulcer at the base of the epiglottis.

Now, I respectfully submit, if these erosions and ulcerations were caused, *primarily*, by the passage of tuberculous matter over the mu-

cous membrane of the parts where they were found, how is it that they were healed? (for the purulent expectoration continued long after the ulcerations were arrested) or, being healed, how should they have continued healed, through so long a period, when the *cause* of their production was remaining for a time constantly in operation?

I shall be pardoned, I hope, for alluding to one other instance of epiglottic and laryngeal disease, inasmuch as the gentleman of whose case I shall briefly speak, was several months under the treatment of the celebrated Hahnemann, and his final directions, as given to this gentleman, illustrate a principle in Hahnemannian practice which I believe has not yet been published to the world.

Mr. G. B., a merchant, formerly in this city, visited Europe in 1838, principally on account of a disease—laryngeal phthisis—under which he had labored for several years. After consulting several eminent men in London, he went to Paris, and placed himself under the immediate care of Hahnemann.

Being in Paris at that time, and occupying rooms in the same house with Mr. B., I saw him daily, and watched with much interest the effects of Hahnemann's treatment on the case.

Mr. B., who had been under the treatment of Dr. Gramme (a Homœopathic physician of this City) before leaving for Paris, had the most entire and implicit confidence in this plan of treatment, and gave, therefore, during a period of three months, undeviating attention to all the rules and directions of his physician. It is sufficient to say, however, that no effect whatever was wrought upon his disease; and, at the close of the above period of time, he left Paris for home, utterly disheartened, "to die among his friends." I had preceded him, and arrived in New York a few weeks before he came, which was at the close of the year 1838. Soon after he reached home, or early in 1839, I was called to see him, and his case was one of the first I ever treated by topical medication.

It was a strongly marked case of chronic laryngitis, attended with ulcerations of the epiglottis, and of the larynx and trachea. He was much emaciated—had severe cough, with expectoration of purulent matter.

Mr. B. now gave me the history of his treatment under Hahnemann, and why he quitted him so abruptly.

Until within a short period of the time he left, Hahnemann had assured him of the positive, ultimate success in his case, of the "potentized" remedies. But finding, at length, that no effect was produced on the disease, he finally informed Mr. B. that such was the

peculiar character of his disease, that it could not be influenced by Homœopathic potions, and that the nature of the disease must be *changed*. He, therefore, advised Mr. B. to *contract syphilitic disease*, and await its secondary effect—the occurrence of ulcers of the throat; that these would eradicate his present disorder, and that Homœopathy, in turn, would find no difficulty in expelling from his system the syphilitic poison!

This patient was treated by me, through many months, by topical applications, as in the preceding cases, conjoined with appropriate general remedies, and ultimately quite recovered his health. Mr. B. is still living, and will bear testimony to the correctness of the above statement.*

The number of cases of ulcerations of the epiglottis, which occurred among the four hundred and two patients, treated during the last year, amounts to *twenty-six*—as estimated by Dr. Richards: about one-third of this number were females. I am confident, however, that a part of these cases, which have been recorded as ulcerations, were, in reality, erosions; because, at first, an erosion was considered as but the first stage of ulceration. The exact proportion of these lesions, therefore, has not been definitely ascertained. From more recent and careful observation, I am inclined to the opinion, that erosions of the epiglottis occur with fourfold more frequency than ulcerations of this organ.

3. *Œdema of the Epiglottis, or infiltration of its areolar tissue.*

It has been stated that the mucous membrane of the epiglottis, adheres closely to its posterior surface; there being no areolar tissue, whatever, interposed between the membrane and this cartilage on its laryngeal face. Consequently, in œdema of this organ, the infiltration of fluid must take place on the lingual surface; where considerable areolar tissue is deposited; and cannot by any possibility be effused on the posterior or laryngeal face of the epiglottis. It is not claimed by any pathological writer, that *œdema* of the epiglottis, like the erosions and ulcerations of this organ, is peculiar to phthisis, or

* I publish this statement concerning the practice of Hahnemann, for the particular benefit of Prof. Henderson, of Edinburgh. When Prof. Simpson was preparing his masterly exposition of the "Tenets and Tendencies of Homœopathy," I was in Edinburgh, and at his request gave him some illustrations of the principles and practices of Homœopathy in America. These he has embodied in the above work. In Prof. Henderson's Reply to Dr. Simpson's unanswerable facts and arguments, he devotes several pages of his work to a most appalling attack on me, and to the ridiculing of my name, instead of attempting to reply to the facts and illustrations I had given. I therefore record the above, concerning the practice of that great light in Medicine, that Prof. H. may have it to comment upon, in the next edition of his defence of Homœopathy.

to any other disease of the air-passages. It is an alteration of structure, having its origin, generally, in catarrhal inflammation; and is most frequently observed in epidemic catarrhs, or influenzas. During the prevalence of an influenza, that occurred to some extent in New York, in the Winter of 1853, and again in 1854, I observed many cases of œdema of the epiglottis.

In the course of the past Winter, also, several persons, with this affection, have consulted me at my office for medical treatment. As we have stated, the infiltration of the sub-mucous areolar tissue occurs on the lingual surface of the cartilage causing the epiglottis frequently to assume a most anomalous aspect. Its lateral edges being rolled back and approximated, it presents, when the intumescence is considerable, much the appearance of a round tumor at the base of the tongue. Partial, and in some instances complete aphonia, is caused by this lesion of the epiglottic cartilage.

In a paper which was furnished by the writer, and which was read before the London Medical Society in April, 1854, on "Aphonia, arising from organic lesions," the following case of œdema of the epiglottis is related:

CASE—"A young gentleman, who, three weeks before, had had an attack of the prevailing epidemic [influenza], called on me, January 29th, 1853. The disease, in its early stage, was attended by a total loss of voice; and it was in reference to this voiceless condition that my opinion was desired. Some degree of cough was present, attended with slight expectoration, but the respiration was but little affected. On depressing the tongue of the patient, the epiglottis was readily brought into view, and it certainly presented that very anomalous aspect to which I have alluded.

Extensive infiltration having taken place in the sub-mucous tissue, on its anterior face, the cartilage was enormously enlarged, its lateral borders were turned backwards and approximated, and its whole appearance was that of a round, puffy tumor, lying at the opening of the glottis. Examining with the finger, for the arytenoid cartilages, they were found to be not involved in the œdematous infiltration; and this exemption from the disease, in this location, accounted at once for the slight degree of difficulty presented in the respiration of the patient.

To procure a reabsorption of the infiltrated serum, a strong solution of nit. argent. was applied freely to the epiglottis, and to the whole faucial region. A profuse expectoration of adhesive mucus, from these parts, followed the application. The topical remedy was

continued daily, for several days. Under its use, the tumefied epiglottis diminished constantly ; and at the end of a week the patient could speak aloud, although his voice had a muffled sound. Continuing the applications a few days longer, the epiglottis, at the end of this time, was found reduced to its normal size, and the patient's voice and general health were fully restored.

That the loss of voice in this case, as well as in many similar cases which have been observed depended on the intumescence of the epiglottis, has been proved repeatedly by the fact, that when the epiglottis has been thus œdematous, voicelessness in most cases has been present, and also by the other fact, that the voice in most of these cases returned after the œdema of the cartilage had been removed.

In some cases we have had œdema of the epiglottis, complicated with ulceration of this cartilage.

The following interesting case is of recent occurrence, and is one of this nature :

CASE.—Mr. J. Dillon, a watchmaker residing in the Eastern part of the city, was brought to me, March 24th, 1857, in an extremely feeble condition. His wife, a strong robust woman, accompanied him, and aided him from the carriage into my office. I was struck with his peculiar appearance. In some respects he resembled a patient in the last stage of phthisis. He was entirely anæmic ; his countenance sallow and bloated, with complete aphonia, and a most harassing cough ; and, although very feeble, was not emaciated.

His wife gave a history of his case ; stating that her husband had enjoyed good health (with the exception of having been occasionally slightly troubled with hemorrhoids), until about three weeks before, when he took a hard cold, which was followed by inflammation and ulceration of the throat, and an entire loss of voice. A most severe spasmodic cough, likewise, came on, which for nearly three weeks, had harassed him day and night.

To relieve this obstinate cough, and improve vocalization, his attending physician had administered repeated emetics. The operation of these, together with the violent coughing, greatly increased his hemorrhoidal difficulty, so that, as both declared, the patient had lost from half a pint to a pint of blood daily, during the last two weeks. This accounted for the anæmic condition of the patient, and for his great feebleness. In searching out the cause of his cough, the lungs and throat were examined. The sounds on the right side were nearly healthy, a slight dulness on percussion was observed under the left clavicle, the inspiratory murmur was diminished in intensity, in

comparison with the right side, and expiration was prolonged.

The thoracic symptoms, however, were not sufficient to account for the severity of the cough. The patient stated that his throat had been ulcerated, but his physician who had cauterized it repeatedly, assured him that the ulcers were all healed. Still, as his cough was in no degree relieved, he had come to ask my opinion of his case. Depressing the patient's tongue with some force, so as to bring the epiglottis into view, this cartilage was found not only greatly œdematous, but its left superior border was covered by a large unhealthy looking ulcer. Judging from past experience, in such cases, I was at once fully satisfied that this lesion of the epiglottis was the cause of the protracted cough. I therefore desired him to return to his physician, and request him to come to my office, with the patient, the following day (for I was very anxious that he should know of this concealed local difficulty in his patient's case); or, if this was not convenient, to request him to examine for himself the epiglottis; confident that if the Doctor discovered the ulceration he would be able to relieve it, as he had already relieved others, in the upper part of the patient's throat. But the patient returned the next day, without the Doctor, bringing the request that I should treat the case, and the assurance of the Doctor that it was not necessary he should be present.

The treatment of this case was commenced, by applying a solution of the crystals of nitrate of silver, 80 grs. to the ounce, not only to the ulcerated border of the epiglottis, but to its whole lingual surface, and an alterative was also prescribed, in doses of a fluid drachm twice daily.

R.	Potass. Iodid.	-	-	-	3ij
	Proto Iod. Hydrarg. gra.	-	-	-	ij
	Tinct. Gentianæ				
	Syr. Sarsap. co.	-	-	-	aa 3ij

M.

March 26th. Find the patient greatly relieved, so far as his cough is concerned, but extremely prostrated, from the great loss of blood, which had escaped from the hemorrhoidal tumors. He has discharged, say his attendants, "half a pint of blood" several times in the twenty-four hours. The last discharge being still in the vessel, was examined, and found to consist of dark coagulated blood, half a pint at least, in amount.

The patient's face, hands and feet are bloated, and it is quite evident that unless the hæmorrhage be speedily checked, he will die

from loss of blood. An examination was made immediately after an evacuation of blood, when three large hemorrhoidal tumors were found. The mucous membrane, which covered these, was ulcerated at many points, through which openings the blood was constantly oozing.

It was determined to operate upon these tumors, with the *nitric acid*, instead of the knife or ligature ; accordingly the next day, the 27th, aided by my assistants—Drs. Richards and Farrington—the tumors being brought down by an effort of the patient, I painted their surface freely with the nitric acid ; a sponge wet with a solution of carbonate of soda was then applied to neutralize the redundant acid, and the parts being well smeared with sweet oil, were pressed back above the sphincter. The hæmorrhage was almost entirely arrested. A small amount of blood was discharged the next day, when the remaining portions of the tumors were again cauterized with the acid, after which the hæmorrhage ceased altogether. The operation proved perfectly successful.

During the two days, in which attention was given to the treatment of the piles, the epiglottis was neglected, and the patient's cough again increased. A few more applications were made to the epiglottis which reduced the œdema, and healed the ulcer. Tonics were administered to the patient, and he made a rapid recovery. He is now quite well, and is attending daily to his ordinary occupation.

It will be difficult to give the exact proportion of patients affected with œdema of the epiglottis, for in most instances of ulceration of the epiglottis, and in many cases of long-continued erosions of this organ, more or less œdema of the cartilage was found to be present. Dr. Richards has recorded twenty-nine cases of this lesion, which were observed among the four hundred and two patients to whom reference has been made. Eight only of the twenty-nine were females.

With those physiologists who have been accustomed to consider the integrity of the epiglottis, as being essential to the perfect act of deglutition, this may be an interesting inquiry—how far are the functions of this organ interfered with, by the lesions we have described ? Ordinarily, neither erosions nor ulcerations of the border of the epiglottis, will increase, to any extent, the difficulty of deglutition. Two cases have come under my notice, in which the epiglottis of the patient was entirely destroyed by œdema and ulceration ; and yet, in both instances, these patients, after a few

weeks, could swallow, either solids or liquids, without the slightest inconvenience. In both these instances the destruction of the epiglottis was caused by ulceration following extensive œdema of this organ ; a condition which supervened upon a constitutional syphilitic taint. In the first instance, I did not see the case until the epiglottis was nearly destroyed by ulceration.

The second case was that of an unmarried gentleman, of New York, who, several years before, had contracted syphilis, of which he had supposed himself to have been cured. After taking a severe cold in May, 1855, which was attended with inflammation of the throat, ulceration of the tonsils and soft palate set in, and was followed by œdema and ulceration of the epiglottis.

When I first saw this patient, the disease had been progressing several weeks. A large ulcer had perforated the velum, and several smaller ones were about the left palatine arch, and in the sub-tonsillary fossa. The epiglottis was extensively œdematous, and its superior portion much ulcerated. The act of swallowing was both difficult and painful. Constitutional remedies were administered, and the ulcerated points were touched with the solid caustic. Under this treatment the ulcerations healed rapidly ; the œdema of the epiglottis was reduced, and the patient, at the end of two or three weeks, could swallow without difficulty. He returned to his home in the country, and continued better until some time in July, when he had another attack, and came back to the city for further treatment. Similar measures were adopted, and at the end of a week he again returned home greatly improved in health. I saw no more of him until the 19th of October following, when he again called on me ; and on inspecting his throat at this time, I was greatly surprised to find that two-thirds of the epiglottic cartilage was already destroyed by ulceration. The remaining portion was freely cauterized with solid nitrate, but the ulceration was not arrested until the epiglottis was almost entirely destroyed, a very small part of the cartilage only remaining. During the progress of the ulceration the patient found but little difficulty in swallowing morsels of solid food, in moderate quantities, but when he attempted to take liquids of any kind a violent spasmodic and suffocative cough ensued, by which the fluids were frequently ejected through the nose. After a few weeks, however, the parts adjusted themselves to the exigency of the case, the glottis was closed without the aid of the epiglottis, and deglutition was accomplished, and has ever since been performed without any embarrassment whatever ; nor has phonation, in any degree, been inter-

ferred with by the loss of the epiglottis. This gentleman's case I have had opportunities of exhibiting to many physicians. By forcibly depressing the tongue, the lips of the glottis—not being concealed by the epiglottis—can be seen, and on directing the patient to make an effort at deglutition, the superior parts of the arytenoid cartilages have been seen to close latterly, like a double valve, over the glottic cavity.

In still another way we are able to demonstrate that the glottis in this case, is closed after the manner I have described. By thrusting the middle and longest finger over the base, or roots of the tongue, the opening of the glottis can be reached by its point; and, on the moment of its touching the lips of the glottis, the irritation will cause a spasmodic closure of this opening, which can be distinctly felt by the finger.

All this accords with the facts elicited, and the conclusions adopted, by M. Longet, who has performed many interesting experiments on dogs, by completely excising the epiglottis, in several of these animals, and, observing, subsequently, the effect of this operation on the act of deglutition.

He found that solid food, after the removal of the epiglottis, still passed with facility, but that in the deglutition of liquids, some portions of the fluid would escape into the glottis, causing the convulsive cough. M. Longet also established this fact, that the closure of the glottis, sufficient to protect the trachea in deglutition, is still effected, ultimately not only after the loss of the epiglottis, but after a division of the nerves which control all the muscles proper to the larynx.

This occlusion of the glottis, under such circumstances, he found was effected, not through the influence of the crico-thyroid, nor the thyro-hyoid muscles, for these were paralyzed by a division of the nerves, but through the *inferior constrictors of the pharynx*, which by embracing the diverging alæ of the thyroid cartilage, folded them one against the other; thus approximating the borders of the glottis, and closing, effectually, the opening of the larynx. In the cases to which I have referred, in which ulceration had destroyed entirely the epiglottis of the patients, the occlusion was effected apparently in the manner pointed out by Longet, for in both these patients, (and the experiment was made by several medical men besides myself,) in touching the opening of the glottis, the apices of the arytenoid cartilages, which form the lateral borders of this aperture, could be felt distinctly to close upon the end of the finger.

What, then, is the special function of the epiglottis, if its presence is not absolutely necessary to the integrity of deglutition?

The arytenoid muscles are the especial *constrictor* muscles of the glottis, and most physiologists have asserted that these muscles receive their nerves from the superior laryngeal; but M. Longet has demonstrated that they are supplied with filaments from the recurrent nerve, and that the mucous membrane covering the lips of the glottis, or the supra-glottic vestibule, in which is located that exquisite sensibility which is disturbed by the smallest drop of fluid, or the contact of any foreign body,—that this space receives its filaments from the internal branch of the superior laryngeal nerve. These two nerves communicate freely with each other, but they have no connection with the epiglottis, consequently the application of irritants to this body, will have no influence upon either the motor or sentient nerves, peculiar to the larynx. But when the irritation of the sensitive mucous membrane at the entrance of the glottis, occurs, it is quickly transferred to the constrictor muscles of the larynx. It is therefore not correct to state, as many anatomists do, that the epiglottis of itself “closes completely the opening of the larynx” in deglutition.

This cartilage being placed between the entrance of the larynx and the base of the tongue, is pressed downwards by the abasement of the latter, at the same moment that the larynx is moved upwards and forwards in the act of deglutition, and the epiglottis is, in this way, moulded upon, and partially closes the glottis, protecting, at the same time, the sensitive mucous membrane which covers the supra-glottic space.

Although contrary to the ordinary belief, yet we announce the fact, one which can be demonstrated any day,—as it has been a score of times, to medical men,—that the epiglottis in its normal condition is an almost insensible organ; it may be touched with the finger—with the handle of an instrument, without producing any irritation. It may even be cauterized, with the solid nitrate of silver, and no unpleasant sensation will be perceived by the patient, until the mucus which dissolves the caustic runs down and reaches the lips of the glottis, when a convulsive cough is produced.

When, however, this cartilage is eroded, or ulcerated, these lesions cause an irritation, which is not unfrequently followed by a severe and persistent spasmodic cough. This irritation, and consequent cough, I have been inclined to attribute to the morbid, or ulcerated secretion, running down and coming in contact with the

exquisitely sensitive mucous membrane which covers the supra-glottic space ; for this cough ceases at once, as we have seen, when this morbid exudation is arrested or changed. The special functions of the epiglottis, therefore, are, first, to render perfect the integrity of deglutition ; for, as M. Longet affirms, although men and animals when deprived of it, swallow without difficulty solid food, yet, it is not the same with liquids, for this cartilage serves to direct, past the two lateral portions of the larynx, the drops of liquid which, after deglutition, still lie upon the dorsum of the tongue, and which flow over the epiglottis, and by it are prevented from falling into the supra-glottic vestibule.

2d. In the act of vomiting, the occlusion of the glottis is effected by this cartilage, and thus the matters vomited, are prevented from entering the trachea. In rumination also, in animals, the alimentary ball is, in the same way, hindered from falling into the glottis.

CONCLUSIONS. The principal propositions embodied in this paper may be summed up in the following conclusions :

1st. The epiglottic cartilage is subject to serious alterations of structure, which, it is believed, have not received that attention in practical medicine which their importance demands. These lesions, which are ordinarily the result of inflammation, are *erosions* of the mucous membrane of the epiglottis. *Ulcerations* of the membrane and of its glands ; and *œdema* or *infiltration* of its areolar tissue.

2. Both erosions and ulcerations, although occasionally found associated with tuberculosis, yet are often found to exist as primary disease, being the antecedents, and in many instances, the exciting cause of other grave affections.

3. Erosions occur much more frequently than ulcerations ; they differ from the latter in being more superficial, as they are confined to the mucous membrane, and ordinarily to its epithelial layer.

4. Primary ulcerations of the epiglottis, are alterations of structure, differing essentially, as we have seen, from the erosions of this organ. They originate apparently in the follicles of the mucous membrane, which soften, ulcerate, and penetrating the fibro-cartilage, destroy, ultimately, a portion of the epiglottis, and if not arrested, prove the cause of still more serious disease.

5. *Œdema* of the epiglottis, or infiltration of its areolar tissue, is a lesion of this cartilage of somewhat frequent occurrence—the result, ordinarily, of catarrhal inflammation. It is attended, generally, with loss of voice, difficulty of deglutition, and is occasionally complicated with ulcerations of this cartilage, by which, in some instances, the epiglottis has been completely destroyed.

6. The epiglottis, which is almost insensible in its normal state, becomes, when diseased, frequently the source of great irritation to the more sensitive adjacent parts. The presence of this cartilage is not indispensably necessary to ensure deglutition, as deglutition may be performed in the absence of this organ. It is necessary, however, to render perfect this act ; but its most important function is to cover over and protect that exquisitely sensitive portion of mucous membrane which occupies the supra-glottic space, and which is the true sentinel at the glottic opening.

But the most important practical conclusion is found in these propositions, that some of the lesions which have now been described are often, it is believed, not only among the earliest manifestations of thoracic diseases, but are themselves in many instances, the *true exciting cause* of these affections ; and furthermore, this postulate once established, that we have it in our power, by timely, topical medication, to arrest, positively, cases of disease which otherwise would, and in many instances which do, terminate fatally.

Successful Removal of the Entire Inferior Maxillary Bone for Osteosarcoma. By Dr. MAISONNEUVE, Surgeon to the Hospital of la Pitié. From a paper presented to the Academy of Sciences, August 10th, 1857. Translated for the MONTHLY from the *Gazette des Hopitaux*.

It is but a few years since the entire removal of the inferior maxillary bone was considered as an undertaking so dangerous that no French surgeon had dared to resort to it.

Beside the extreme difficulties by which its execution appeared to be surrounded, beside the fear caused by the vicinity of the carotid arteries, we were persuaded that after this mutilation, the tongue, deprived of its anterior attachments, would necessarily draw itself back and cause suffocation. It was especially believed that, supposing a cure was attained, such a mutilation would leave the patient in a deplorable state, and destroy permanently both the power of mastication and of speech.

Such was the general opinion on this subject, when, in 1853, I had the honor to present to the Academy a young girl on whom I had recently practised the entire removal of the jaw, and in whom none of the accidents, just spoken of, were encountered. However, as

this operation was performed at two times, it might be supposed that this circumstance had neutralized a part of its inconveniences and its dangers. But in 1856 I had occasion to perform this operation again, in a young man whom I had the honor to present to the Academy. In this second case the operation was rapid and easy ; no accident hindered the recovery. Phonation was intact, and thanks to the ingenious dental apparatus constructed by Messrs. Fowler and Preterre, the young man could easily chew solid food.

The new case, which I have the honor to submit to the Academy, adds nothing of importance to those I have just referred to, but it confirms them completely ; and then these facts together make a point from which we can already deduce practical consequences of great interest.

CASE.—On the twenty-third of June, 1857, a young girl named Matilda Saumon, came with her mother to consult me for a large tumor which she had on the lower jaw. This tumor, which, according to the patient, appeared only ten or twelve months before, had taken on a rapid development. It had already invaded all the right side of the maxillary bone, quite to, and even compromising the ascending ramus. On the left side it extended as far as to the first large molar. It was the seat of lancinating pains, which however recurred at somewhat long intervals—five or six times a day. The teeth were complete, except the first large molar of the left side, which had been drawn. The soft parts were perfectly healthy.

After a careful examination of the state of affairs, I was of the opinion that the disease of the young girl had its seat in the osseous tissue itself ; that it belonged to the class of osteosarcomas ; and that there would be great danger of a relapse by saving the smaller portion of bone, which appeared to be still healthy, and in which, at the best, only two teeth could be preserved. Consequently I proposed the complete disarticulation of the jaw, which was agreed to by the parents and by the young girl. This operation was performed June 30th, 1857.

1. The patient being put under the influence of chloroform, I made in the middle line of the lower lip a vertical incision, which penetrated to the bone.

2. By means of a chain saw I divided the bone at the *symphysis mentis*, which permitted me immediately to establish the correctness of my diagnosis as to the nature of the disease.

3. With the point of a bistoury I divided the gums longitudinally within and without the dental arch.

4. Without any instrument I rapidly separated the periosteum with the end of my finger ; then having arrived at the insertions of the masseter and internal pterygoid muscles, I tore them off forcibly, as well as the nerves and the dental vessels.

5. With the point of my curved scissors I cut the insertion of the temporal muscle.

6. Finally, by an abrupt (*brusque*) motion, I pulled away the bone, tearing the articular ligaments and the insertion of the external pterygoid muscle.

This first part of the operation being done, I proceeded to the disarticulation of the left side, which was rapidly accomplished, and according to the same principles.

It was a remarkable thing that, after this operation, I did not need to use any ligature. The dental arteries, torn with the finger, did not lose a drop of blood ; the labial arteries, divided by the bistoury, stopped bleeding as soon as I had brought together the two halves of the lip by the twisted suture ; the tongue, retained by its insertions into the periosteum, had no tendency to fall back. Deglutition was performed from the first day ; finally, no accident came to hinder the recovery, which was complete in the fifteenth day.

Now, six weeks have passed since the operation ; the face has recovered its form and its regularity, and, except mastication, which can only be performed by the tongue till an artificial set of teeth is prepared, all the functions of the mouth are performed as if the patient had not undergone any operation.

Here there are three cases of entire removal of the inferior maxillary bone—all three successful, and all three perfectly exempt in their execution, in their sequents, and in their results, from those difficulties, those accidents, and those deformities which have hitherto been found. We therefore believe that we may properly lay down these conclusions :—

1. The entire removal of the inferior maxillary bone may be subjected to precise rules.

2. It is neither more difficult nor more dangerous than a large number of common operations.

3. It is not followed by any great deformity.

4. It does not interfere with any important function.

5. It allows perfect application of a set of artificial teeth.

6. It has every claim to rank as a regular operation.

We may remark, that our three operations were performed in the sub-periosteal method, the principles of which, enunciated and devel-

oped by M. Flourens, find daily new and valuable applications in practical surgery ; and we do not hesitate to refer the greater part of the fortunate results of our attempts to the care which we have taken to conform to those principles.

No other method, in fact, would have permitted so rapid and so sure an execution ; no other method would have enabled us to guard so completely against hæmorrhage ; and, above all, no other would have permitted us to preserve so complete a point of support to the tongue and the other muscles, without taking into consideration that it is not impossible for a new osseous arch to form between the two layers of the membrane.

Double Monstrosity. By G. J. FISHER, M.D., of Sing Sing, N. Y.

On the 11th of August, 1857, I was called to see a lady who was threatened with symptoms of miscarriage. On hastening to the house I found her lying comfortably in bed. She directed my attention to a mass which she had passed a few moments before, after a single protracted labor pain. On examination it was found to consist of a placenta, with the membranes entire. Upon opening the sac and discharging the liquor amnii, a foetus with two heads was discovered. The patient, a native of this country, aged 36 years, is a person of a delicate and feeble constitution. She has but one living child, although she has been delivered nine times, at various periods of gestation, from the third month to the full period. No malformations or twins have before occurred.

According to her own statements, she had, in this instance, advanced to between the fifth and sixth month of pregnancy.

The foetus measured ten inches in length ; the shoulders were three-and-a-half inches in breadth. Two heads of equal size and appearance, were attached, each by a distinct neck, to the body, which was single. The heads were both hydrocephalic, but in every other respect normally developed. The chest was very broad at its upper part, the shoulders being three-and-a-half inches apart ; the body gradually diminished to the hips, which were no broader than usual in foetuses of this period. There were but two arms and two legs ; the extremities were much emaciated. The genitals, which were female, were natural. Upon opening the chest, the thoracic cavity was found to be very large, but single. It contained one large heart, which occupied the

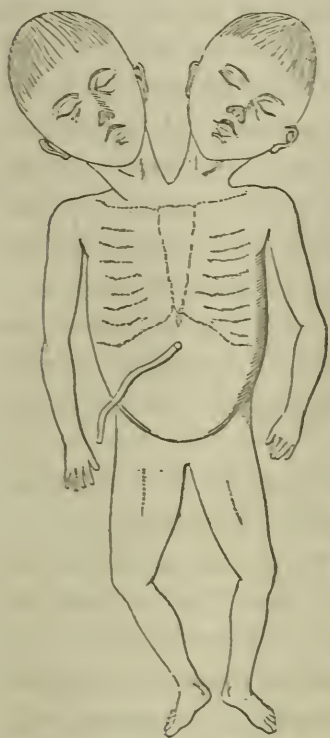
central part of the thorax ; but one aorta proceeded from it, which sent off two sets of carotid arteries. Two sets of lungs were found ; the middle ones were united by two-thirds of their extent. Two trachea led to the lungs, which were equally developed.

One broad diaphragm separated the chest from the abdomen. On opening the abdomen one very large liver, one spleen, and one pancreas were found. An œsophagus from each mouth communicated with one common and single stomach ; the intestines were single and natural. Only one kidney, which was situated in the right lumbar region, was discovered ; the bladder and uterus were natural. After removing all the thoracic and abdominal viscera, two perfect and entire spinal columns were found, converging as they approached the sacrum and coccyx, where they laid beside each other, but were not united together. To the dorsal vertebræ of each spine were attached twenty-four ribs ; the middle ones were united together by their distal extremities, no sternum intervening. The junction of the middle set

of ribs formed a prominence or ridge, which partially divided the chest into two thoracic cavities. The external sets of ribs were larger than the middle ones, and were attached to a very broad but single sternum. No trace of rudimentary upper or lower extremities, to complete the two individuals, were found ; two scapulas and two clavicles alone were discovered.

Everything necessary to carry on the functions of organic life, in an independent extra uterine existence, was supplied. Prehension, mastication, deglutition, digestion, respiration, circulation, secretion, innervation, &c., are all functions that probably could have been performed had this monster unfortunately been born living at the full period.

The accompanying cut will give a very fair idea of the general outline of this monstrosity.



Case of Ulceration of the Appendix Vermiformis—Perforation—Peritonitis—Death.

At the session of the New York Pathological Society on the 8th of July last, *Dr. Sands* presented a specimen illustrating ulcerative disease of the vermiform appendix ; accompanied by the following history :

Mr. S——, aged 22, by profession an artist, while engaged in his studio, at an early hour on the 30th June, was overcome with a sense of exhaustion, and fainted ; from this he soon recovered, and returned to his boarding house, where he breakfasted, and after an hour's rest went back to his studio, and continued labors until 12 o'clock, M., when he took his dinner of beefsteak and porter, supposing by such generous diet to overcome his feelings of lassitude. After dinner he rested for three hours, and then left his boarding house to fulfil some engagement he had made, but returned in a short time to his room and bed, with severe pain in the right iliac region, and great prostration. This was soon followed by vomiting of a greenish color. At 8 P. M. I first visited him ; he then complained of great pain in the right iliac region, immediately over the caput coli. This was greatly increased on pressure. Other portions of the abdomen free from pain. Headache, with great nervous excitement ; had not experienced any chill ; no heat of skin ; pulse quick and feeble ; constant vomiting ; tongue red at the tip and dry ; bowels constipated. Considering the case to be one of inflammation of the caput coli from constipation, ordered mustard poultice and ice to allay vomiting, and a pill of cal. coloc. and nux. vomica every three hours.

July 1st, 9 o'clock, A. M.—Symptoms continue the same ; bowels not open ; pulse 120 and stronger ; ordered ol. ricini ʒi , to be followed by an injection in three hours. 10 P. M.—Symptoms more alarming ; vomiting continues ; pulse sharper and fuller, 130 ; skin hot and dry ; countenance anxious ; occasional hiccup ; consider the last symptoms as very unfavorable, and probably indicating sloughing of the vermiform process ; ordered leeches and fomentations, with calomel and opium pills every three hours.

July 2, 9 o'clock.—Passed the night more tranquilly, and slept a little ; bowels open twice ; hiccup and vomiting continues ; leeches bleed freely ; pulse 132 and feeble ; no heat of skin ; pain over the abdomen general, but most severe in the caput coli, and ascending portion of the colon. Continue cal. and opium.

4 P. M.—Patient sinking ; pulse very feeble ; cold, clammy sweat ;

very restless ; order opium gr. 1 every 2 hours, with strong beef tea and brandy and water. 10 P. M.—No better, do not think he will survive through the night.

July 3, 9 o'clock A. M.—Found his symptoms much as last night ; continue the opium occasionally, with beef tea and milk punch. 10 P. M.—Rapidly sinking, and died at 11 o'clock P. M.

Post Mortem made by Dr. Sands 12 hours after death.

The specimen exhibited consisted of the caput coli, appendix vermiformis, and lower portion of the ileum. The appendix was about three inches in length, and was fastened to the inferior and posterior part of the cœcum by adhesion. It was dilated about its middle, from the presence of an intestinal concretion, in which were found a number of strawberry seeds, and small solid particles, probably earthy phosphates. The mucous membrane of the appendix was the seat of sloughing ulceration, which, near its extremity, had perforated the several coats, permitting the escape of a feculent matter, and giving rise to acute peritoneal inflammation, of which the patient died. Besides these morbid appearances, there existed disease of the solitary and agminated glands of the small intestine, the glands having the aspect which they often present in typhoid fever. Dr. Sands inquired whether any other than an accidental relationship might be supposed to exist between the disease in the appendix vermiformis, and that of the glands of the small intestine, and if so, which ought to be regarded as antecedent. The greater intensity of disease in the appendix favored the idea that it had extended from below upwards. A certain number of cases, however, were on record, in which foreign bodies of considerable size had been found in the appendix after death, that had remained there without causing any disturbance. It might be, therefore, that in the present case the concretion would have remained likewise harmless, had not an additional source of irritation been furnished by the extension downwards of disease, which had commenced in the small intestine.

Dr. Harris said that his experience tended to confirm the latter view, he having in several instances noticed ulceration of the follicles of the appendix vermiformis, coincident with ulceration of Peyer's plates, in typhoid fever.

Dr. Clark thought the discussion of this question a useful one, and suggested that the following inquiry be decided by future observations, viz : Whether this disease of the glands of the small intestine, ever exists independently of some constitutional cause ; he being of opinion that such an one might generally, if not always be recognized.

On Scarlatina: A Clinical Lecture delivered at Hotel Dieu, Paris. By M. TROUSSEAU. Reported by Dr. Leon Blondeau. Translated from the *Gazette Hebdomadaire*, for the MONTHLY. (Continued from page 159.)

The *angina of scarlatina* is one of the most difficult diseases to describe properly or to recognize readily. To point out its simple or severe forms is, in general terms, easy; but it is not so with one of the varieties of the latter, which we shall study in its turn, in which diphtheritis arises as a complication, disconcerting the previsions of the physician, and giving to the angina of scarlatina a character of fearful seriousness.

Scarlatina is essentially an anginous disease, if you will permit me this expression. However benign it may be, it is seldom that it is unaccompanied by pain in the throat, as it is seldom that rubeola, however light it may be, is unaccompanied by pain in the larynx. This pain in the throat is also met with in variola, and the presence of three or four pustules upon the pharynx explains it; but the angina of variola differs essentially from the angina of scarlatina.

From the first day of the disease, the veil of the palate is red, of a tint analogous to the skin, deeper however; the tonsils, slightly swollen, are of a violet color. As the disease progresses, after two, three, or four days, there appears upon one of the tonsils, sometimes upon both, small, whitish concretions, ordinarily of a milky white, at least when they are not discolored by any substance ejected from the stomach in vomiting. Examining them more nearly, by removing them with the handle of a spoon, you will perceive that they differ from diphtheritic false membranes; these of a yellowish white are adherent, and when they are seized, by means of forceps, they come off in shreds; the concretions of scarlatina, pulpy, but not adherent, have not the characteristics of false membrane, resembling rather those concretions which arise, for example, upon the surface of bad ulcers.

The disease progressing, the intensity of the angina may become so great as to interfere with respiration, and especially with deglutition; fluids taken, return by the nose; the voice becomes nasal, and the ganglions of the neck, principally those of the angles of the jaw, are engorged. When not interfered with by medication, or when a mild course of medication is adopted, this angina retrocedes with the disappearance of the eruption upon the skin of scarlatina. The tonsils throw off their concretions, remaining red, and sometimes excoriated: the disease is cured. The throat and tongue, however, still remain sensitive, and this excess of sensitiveness persists longer

upon the first of these parts than upon the second. It ends by a kind of desquamation analogous to that which we have noted as taking place upon the tongue. Such is the ordinary form, the simplest form of scarlatinous angina. There are other more severe forms: there is one, in particular, to which I have already alluded, and which I have almost invariably seen to terminate fatally. I shall now speak of this form.

Some individuals are attacked with scarlatina of moderate severity: they are slightly delirious at night, restless, pick their bedclothes; the pulse is quite frequent, and the soreness in the throat moderate. The disease passes to the eighth or ninth day; recovery seems certain; the fever abates, the eruption disappears, and the family feel secure. Suddenly a considerable engorgement is observed at the angle of the jaws, occupying not only this region, but the neck also, and sometimes a part of the face. A sanious liquid, fetid, and very abundant, flows from the nares. The tonsils are very voluminous, the breath is very offensive; the pulse suddenly becomes very frequent and small; the delirium reappears, and other nervous symptoms reërise; the delirium continues; coma succeeds, and, at the same time, the skin becomes cold, the pulse more and more feeble, and the individuals succumb, after three or four days, in a slow, painful manner, or die suddenly, as though from syncope.

How can this be explained? It may be asked, if it be not diphtheritis which complicates the scarlatina?—for these phenomena resemble so much the terrible forms of diphtheritis, those forms which destroy adults, as well as infants, before the croupal affection has had time to reach the larynx, the false membranes being confined to the nasal passages, the ears, and fauces; these phenomena resemble so much those terrible forms of malignant diphtheritis, that we are tempted to believe that it is not scarlatina, but this last woful disease, that has destroyed the patient.

I am the more inclined to believe this because, in some cases, the larynx is invaded. Graves cites some observations of persons who died of croup following scarlatina, or, recovered from this exanthematous fever, after having thrown off tubular false membranes, moulded upon the trachea. Graves, in citing these facts, has reproached me with having mistaken this form of the disease. I had, in fact, heretofore mistaken it. I said: scarlatina does not love the larynx; but during my service at the Children's Hospital, I found so extraordinary an identity between malignant scarlatinous angina and malignant diphtheritic angina, that I wavered in my opinion.

Now I cannot help believing—although I dare not affirm it, my convictions not being sufficiently established,—that these phenomena, of which I have just spoken, are none other than the symptoms of diphtheritis appearing at the close of an attack of scarlatina, as a most serious complication. Patients die, in fact, with all the symptoms of diphtheritic poisoning : general coldness, small pulse, fetidity of the breath, both by the mouth and nose, universal paleness of the skin, a frightful dissolution of the tissues—symptoms which are not found in any other kind of severe disease. It is possible that persons being subjected to particular conditions in the midst of an epidemic atmosphere—which is especially witnessed in hospitals for children, where diphtheritis is almost always present—it may be that the angina of scarlatina becomes the point of attraction for a diphtheritic exudation, absolutely in the same way as a little excoriation behind the ear, as an ulceration of the vulva, of the folds of the skin, as any other wound may, in persons placed in the same epidemic conditions, become the point of departure for the manifestations of diphtheritis. What tends to strengthen me in this opinion, is the fact that of all the anginas arising suddenly at the ninth or tenth day of scarlatina, I do not recollect to have seen a single case get well ; while for the angina scarlatina, even very severe, but commencing with the scarlatina itself, and reaching its height towards the sixth, seventh, or eighth day of the disease, for this angina recovery is the rule, which often takes place without the aid of art.

When we take up the subject of the treatment of scarlatina, I shall speak to you of the treatment of the angina of scarlatina. Now I will simply say to you, that the croupal angina of scarlatina (I do not speak of that severe form to which I have drawn your attention, but the simple form which we have said is almost always accompanied with pultaceous croupal concretions), this simple croupal angina of scarlatina acts very differently from the severe angina, from diphtheritic angina ; for while this is very mobile, and tends towards the nose and larynx, the other on the contrary remains generally limited to the pharynx, and for it I maintain the proposition which Graves has condemned ; *Laryngem amat evitare*. The angina of scarlatina is then pharyngeal, very different from the angina rubeola which is laryngeal and from the angina of variola, which is both pharyngeal and laryngeal. The voice of those affected with the angina of scarlatina is nasal, but it is sonorous ; it does not undergo any other modification than that it meets with in passing into the mouth. In rubeola the timbre of the voice is, on the contrary, very often altered

from its formation in the larynx; it is not modified in passing the throat.

In some cases towards the close of the disease, towards the decline of the eruption, other symptoms appear upon the neck, or elsewhere : these are the *bubos of scarlatina*.

All pestilential diseases are accompanied with bubos. Putrid fever has its mesenteric bubos, for you know that towards the ninth or tenth day of that disease the mesenteric ganglions can acquire the size of a pigeon's egg, and even more. Scarlatina, which is also a pestilential disease, has then its bubos. They occupy the cervical region; the lesions which determine their evolution are seated in the throat. From the commencement of the disease you will perceive the ganglionic engorgements upon the sides of the neck and at the angles of the jaw. Sometimes towards the tenth or twelfth day, independently of the disorders produced by that severe form of angina of which I have just spoken, there will arise a sudden inflammation of these cervical ganglions ; the skin reddens, becomes tense, and in four, five, or six days, a large phlegmon is formed. If it is opened pus will be found, and sometimes the cellular tissue which envelopes the ganglions is sphacelated. I recollect a young lad fourteen years old, in whom this gangrene was so extensive that the neck was dissected out as though by a diffused phlegmon, and the carotids were seen to beat at the bottom of this frightful wound—he got well, but retained a sad deformity. Graves reports an identical case.

These lesions can arise in other parts of the body, where ganglions do not exist, where at least they do not appear to have been the cause of the symptoms. In the young lad of whom I have just spoken, independently of the phlegmon of the neck, another diffused phlegmon appeared the tenth day of the disease upon the leg, which produced a considerable shortening of the tendons and left the patient lame, to such a degree that he was excused from serving, when six or seven years afterwards he was drawn in the conscription.

Besides these acute ganglionic engorgements, besides these diffused phlegmons of the cellular tissue, scarlatina can also give rise to *chronic ganglionic engorgements*.

In infants which are not at all scrofulous, you can see as the consequence of scarlatina, chronic engorgements which commenced with the disease, and which persist two, three, or four months after recovery. In scrofulous infants, these engorgements often terminate in scrofulous ulcerations.

The *urine* during the period of the eruption in this disease, is sometimes *bloody*, and often *albuminous*. It has been estimated, that in this period of serious cases of scarlatina, albuminuria is present one time in three. You know that this alteration of the urine is also frequently observed in typhoid fever, in erysipelas, in variola, and in other affections. Although frequent in the acute periods of scarlatina, albuminuria does not constitute a symptom very different from the albuminuria which is observed, more rarely it is true, in other affections which we have designated.

There is another symptom which is also seen in the acute period of scarlatina, *rheumatism*. The rheumatism of scarlatina is a very common symptom, but as it does not exhibit itself by the symptoms general to ordinary rheumatism, as it is limited in most cases to three or four articulations, and principally to that of the wrist, it is often mistaken. However, by carefully questioning the patients, by examining carefully their articulations, by pressing carefully upon them, articular pains will be discovered in perhaps a third of the cases. This is important, for in the course of the disease, you will often see acute symptoms arise in the joints, general arthritis, and also frequently pericarditis, endocarditis—affections upon which M. Thore (of Sceaux) has recently published some excellent works—affections indicated by Graves, which I have observed myself, and which appear to me to be of a rheumatismal nature. These rheumatic symptoms often have as a result another disease, *chorea*, which is witnessed in young children.

Desquamation commences the tenth or fifteenth day; it may last till the sixteenth or seventeenth day, as we have at present an example in No. 7, in the women's ward. It is apparent first upon the neck and chest, then upon the limbs, upon the back of the hands, upon the palm of the hands, and finally, upon the bottoms of the feet.

Upon the body this desquamation has peculiar features, but which are still more characteristic upon the hands and feet. Upon the body it takes place in scales, which are often no larger than 2 or 3 millimetres, and which again are one, one-and-a-half, and two centimetres in size. Upon the arms, upon the legs, where the epidermis is a little thicker, they may be four to five centimetres in size, the epidermis may be raised in large bands, as after erysipelas and phlegmons, but this desquamation has never the furfuraceous appearance of the desquamation of measles. In rubeola, these scales are so small that they have to be attentively examined to see them, and often

they can only be seen by brushing, so to say, the skin of the patients with the sleeve of your coat, in order to collect the fine powder which this eruption produces. Upon the hands and feet, the desquamation of scarlatina is so distinctively marked that it is impossible to mistake it. There the epidermis is elevated in great patches, resembling pieces of a glove. The desquamation of the feet is the slowest; in some cases the nails, which are, as you know, an epidermic production, fall. This is rare, but it has been observed, and Graves cites a case.

We have still to study scarlatina in the symptoms which arise during its period of decline, and again in its elementary forms, that is to say, in the forms which it assumes when it ceases to present its habitual characteristics, when it is so altered, that unless it be examined attentively, in many cases it would be impossible to recognize it. This part of the history of scarlatina is certainly the most important to study, less on account of its nosological relations than its practical relations.

Of these symptoms, some may be considered as immediate, others as mediate, arriving much later.

The first are the *nervous symptoms*. A person is cured of scarlatina—he is convalescing,—you have no longer any anxiety on his account, when suddenly vomitings take place similar to those of the commencement of the disease; with the vomitings come delirium, a terrible agitation, a great frequency of pulse, and the patient dies in coma or with convulsive symptoms. Still there is no anasarca, no albuminuria, no hematuria, nothing which can explain these phenomena. These symptoms are not only seen in children but in adults also. These symptoms arising in the course of the disease have, you see, a much more terrible signification than they have in the first period, and yet they are then very serious. I could not then tell you too emphatically that in scarlatina, you cannot regard your patient as cured until a long time after the cessation of the last morbid phenomena. There is no disease which shames the physician more, there is none in which one is more subject to errors of prognosis, and these errors are inevitable. The fever has subsided, only a very few slight symptoms remain, you announce a cure, and yet the disease is still formidable, it will kill the patient with great rapidity, and this cannot be foreseen.

Among the immediate phenomena of this period of decline, which takes place during desquamation, *anasarca* is one that deserves your particular attention.

This symptom appears not in the most severe form, but rather in the moderate form of scarlatina. It afflicts the convalescents not only when they are exposed to cold, when they have committed some imprudence, some dereliction in diet, but when surrounded with the very best care, and attended to with the most constant solicitude.

Anasarca often appears in the most sudden manner. It invades the face, the whole body, in some cases it is so great, that an infant for example which the evening before you had left thin and pitiful, seems to you the next day fat, on account of the enormous puffiness which he presents.

This swelling reaches its maximum in twenty-four hours ; it is universal, and to a degree which you will rarely find in anasarca, consecutive to organic diseases of the heart, or Bright's disease. In other cases, on the contrary, the anasarca is very slight, and is limited to the face, and to the extremities ; but it is accompanied by a remarkable paleness of the skin, and it is almost always preceded or accompanied by hematuria.

Hematuria is a symptom, in fact very common in scarlatina, although frequently it is not recognized. If the blood be pure, if it be only slightly altered by mingling with the acids of the urine, which is then of a black color, this hematuria is discovered and pointed out by the parents, but it is not noticed when the bloody secretion is slight, the urine remaining of a rose color. The color of bloody urine can also be greenish like whey, a color essentially different from that of the urine of Bright's disease, and from all other kinds of urine. The first few days the micturition of blood may be so great, that the urine can deposit at the bottom of the vessel used in experimenting, blood globules forming a precipitation one or two centimetres in depth. The urine then looks like a strong solution of rhatany. According as the disease progresses, the urine is colored as we have said, but blood can still be recognized by the altered globules which are found adhering to the sides of the glass, or by the enormous quantity of albumen contained in the urine. When this is heated or treated by nitric acid, you do not get a white albumen like that which is obtained in Bright's disease, but a brownish albumen, or a dark colored albumen analogous to that of acute albuminuria.

Ordinarily children recover under a hygienic treatment easy to give them ; but in other cases, notwithstanding this treatment, the anasarca, when it is great, and when it has come on rapidly, carries

off the patients by producing various symptoms of which I shall now speak.

At times some complain suddenly of a violent pain in the head, attended with difficulty in the sight: *convulsions* are then to be feared. It is well to know this fact, for upon the one hand it is important to announce to the families what is to be expected, and on the other hand, in some cases you can ward off these attacks. To hold the head elevated, to place the legs hanging over the side of the bed, and to administer an active purgative, are the means efficaciously employed under these circumstances. But most generally the convulsive attacks come on, whatever may be done, and sometimes immediately destroy the patient; in other cases they are repeated rapidly with intervals of an hour and a half, an hour, or of an half hour; they are almost continuous, one hardly terminating before another commences, and the patient succumbs in a stupor and coma unless prevented by active treatment.

At other times the anasarca reaches the more profound parts. I have seen it attack the veil of the palate, the uvula, the epiglottis, the aryteno-epiglottic ligaments, and in the infant in whom these lesions were present, the symptoms of *œdema of the glottis* arose; he owed his life to an active cauterization of the superior part of the larynx. Cases of persons carried off by an œdema of the glottis, during the anasarca of scarlatina, are not rare. Death takes place the more readily, because the throat having been attacked by inflammation, that inflammation has extended to the aryteno-epiglottic ligaments, and the tumefaction produced by the œdema, is added to the swelling consecutive to the antecedent phlegmasia.

There are other symptoms which arise during the decline of scarlatina, which are much less known, although they are more so than formerly; I speak of malignant pleurisies, of pericarditis, and of rheumatism.

When we speak of eruptive diseases, we say that rubeola invites the thoracic diseases. This is true, for rubeola first attacks the bronchial tubes,—it declares itself there before it manifests itself upon the skin, as scarlatina manifests itself by a pharyngeal angina before any eruption of the skin. The first symptom of rubeola is pulmonary catarrh, and from this it can be easily understood how that, when this catarrh is more severe than usual, inflammations of the lungs are frequently produced. Thus when on the seventh or eighth day of a rubeola the patient is still feverish, you can be almost certain that he has either an acute catarrh or a pneumonia, or even a pleurisy.

Authors agree on this point, that, on the contrary, in scarlatina the thoracic organs are respected. They are, it is true, in the acute period of the disease, but they are not so in its decline. It is quite common in fact to see in some affected with anasarca, and even in others who are exempt from it, symptoms of disease of the chest suddenly supervene. The lungs in this case are not attacked as in rougeola, but the serous membranes, the pleura, and the pericardium.

These pleurisies of scarlatina are ordinarily malignant, not only on account of the rapidity with which the effusion takes place, but also on account of the quality of the liquid effused. At the eighth or tenth day of the pleurisy, the liquid is often purulent like that of a puerperal pleurisy. The cause of this production of pus is a general infection. On which account the eruption, the inflammations of scarlatina, have an extensive tendency to suppuration.

At the Children's Hospital, I operated for paracentesis of the chest upon a child sick with scarlatina, who at the 12th day already had pus in the chest. In a little patient of whom I shall soon speak, and who had anasarca without having had any eruption of antecedent scarlatina (this however prevailed in his family), I also punctured the chest for a pleurisy at the twelfth day, and drew off 750 grammes of perfectly formed pus.

You will never observe anything similar to this except in those who are under the influence of a diathesis of suppuration, as are, for example, women in the puerperal state. There is, then, in these symptoms of scarlatina the influence of the malignity which you will find again further on.

This cause of suppuration, so active in pleurisy, is less so in pericarditis. In truth, this is more seldom and comes on more tardily. This phlegmasia of the pericardium, pointed out by Graves, has been particularly investigated by M. Thore, of Sceaux, to whom we owe the fact of having established the relation existing between this affection and scarlatina. M. Thore has demonstrated that a certain number of individuals, during the convalescence of scarlatina, take pericarditis, mortal for some, curable for others.

We have said that articular rheumatism was one of the most common symptoms of scarlatina, more so than it is generally supposed. Graves intimated this fact. "In a great number of cases," he writes in his Clinical Lectures, "I have seen articular rheumatism follow scarlatina." Yet it has been overlooked, and for many years I insisted upon this remarkable coincidence. Generally, and what is singular, rheumatism in this malignant disease is not very severe ;

it usually gets well of itself without any intervention of therapeutics. Still this existence of the rheumatismal diathesis explains to a certain degree, the appearance of pleurisy and pericarditis; it enables us to understand why these affections are so common, and how *endocarditis* can arise, for it also follows scarlatina. The rheumatism of scarlatina at first usually attacks the articulations, then the serous membranes of the heart, and the pleura. In some cases, from the very first, it invades the thoracic organs without touching the articulations, like ordinary rheumatism. Sometimes it takes that terrible form, the suppuration form, which kills without mercy. It is as the sequel of scarlatina or of puerperal fever that we most usually observe *suppurative rheumatism*. At first it seems simple for a few days, the articulations become more painful, a more intense fever comes on, delirium supervenes, ataxo-dynamic symptoms appear, and the autopsy reveals the presence of pus in the articulations and in the sheaths of the tendons.

Such are the immediate symptoms of the decline of scarlatina. Other mediate symptoms coming on later, are allied to the first, and among others is *St. Vitus' Dance*.

In children you will see this disease follows very soon after scarlatina, supervening six weeks, two months or three months after. The remarkable works of M. See have thrown much light upon the relations existing between rheumatism and *St. Vitus' Dance*. It is very seldom that children escape the last affection when they have suffered from the first, as it is also rare (but this proposition is less absolute than the preceding) to find a child who has had *St. Vitus' Dance* who does not afterwards have the symptoms of rheumatism. In chorea consecutive to scarlatina, the bellows murmur indicating the pericarditis which had preëxisted, sometimes the friction sound of the pericardium, manifestations of the rheumatism of scarlatina, show that it is through this rheumatism that *St. Vitus' Dance* is allied to scarlatina, constituting one of its mediate symptoms.

I shall pass rapidly in review other symptoms, such as the *chronic suppuration of the eyelids*; the *chronic suppuration of the nose*, which may result in necrosis, tumors, lacrymal fistulæ; *suppuration of the ears*, resulting in *perforation of the tympanum*, *partial deafness*, *caries of the petrous portion of the temporal bone*, and consecutively *facial paralysis*. We also merely cite the *chronic inflammation of the lymphatic ganglions*, principally the ganglions of the neck, producing scrofulous swellings in those of a tuberculus diathesis. These symptoms are also quite common.

[Concluded in the next number.]

SELECTIONS.

Cancer Cures and Cancer Curers.

Mr. Spencer Wells publishes in the *Medical Times and Gazette* a lecture on *Cancer-Cures and Cancer-Curers*. The article is of great length, and is well worthy of perusal; being full of interesting facts relating to the history of this form of empiricism. We make a few quotations :—

“This notion of the *roots* of cancers leads me to say something about Plunket and Guy, cancer-curers of the past century, who adopted it—just as it has been adopted by two American physicians, Dr. Pattison and Dr. Fell, who have treated cancers by secret remedies in London for some years past. The notion is, that their applications not only destroy the tumor itself, but penetrate, by a sort of intelligent power, or elective affinity, in certain directions, corresponding exactly with these supposed roots of cancer—eating away or drawing out those roots, without affecting the sound flesh into which they are ingrafted. On removing such tumors they show filaments of hardened cellular tissue, or portions of subjacent muscle, keeping up the connexion; and on the tumors they preserve in bottles, they show similar prolongations, or shreds, hanging into the spirit in which the tumors are preserved. These are, in all probability, merely portions of the surrounding tissues which have been destroyed by the action of the caustic. Possibly these supposed roots may have given rise to the term “cancer,”—the crab holding firmly with its claws the prey it had grasped. However this may be, you can see at once how likely such reasoning is to affect the imagination of patients.

“Plunket practised as a cancer-curer in London, in the early part of last century. He is said to have known little or nothing of surgery in general, and to have practised from the traditionary directions of his namesake, formerly an empiric in Ireland, who left the receipt for his medicine, with directions for its use, to Steevens’s Hospital. Guy, who was a member of the ‘Corporation of Surgeons,’ purchased the secret of Plunket about 1754, and in his account of the medicine says it had been known by the name of ‘Plunket’s Poultice,’ and had been used by Plunket and his ancestors for more than a century. A controversy took place between Guy and Gataker, and in the *Lloyd’s Evening Post*, March 5th, 1760, old Plunket gives his own receipt, as follows :—

“Crow’s-foot, which grows in low ground, one handful, well pounded.

“Dog fennel, three sprigs, well pounded.

“Crude brimstone, three middling thimbles-full.

“White arsenic, the same quantity. All incorporated well in a mortar, then made into small balls, the size of nutmegs and dried in the sun.

"Sir Charles Blicke, with whom Abernethy served his apprenticeship, used Plunket's caustic very much in the treatment of cancerous sores, and his pupils used to be employed in gathering ranunculus and dog fennel, and making them into the paste.

"It is curious to remark how imitative even great discoverers may be. The escharotic effects of arsenic had been known to the Greek and Roman Physicians—they had not been forgotten in the Middle Ages. The mineral had been used for centuries in the removal of cancerous diseases. Plunket adds some crow's-foot and dog-fennel to it, and becomes a great cancer-curer in London. The chloride of zinc is proved to be an excellent caustic by Hancke, Canquoin, Alexander Ure, and others. They even use it to remove malignant growths. Dr. Fell adds some *Sanguinaria canadensis* to it, and four gentlemen of the very highest character and professional position, expressing no disapproval of the use of a secret remedy, and without trial of the unaided powers of the vegetable, publish a certificate on Dr. Fell's 'mode of treatment,' complimenting it as 'ingenious, safe, and easy of application.'

"It was Guy's caustic or rather Plunket's paste, that killed Lord Bolingbroke, and many others were poisoned by the local use of arsenic; yet this did not prevent Lord Arundel from buying the receipt from the wife of a blacksmith, so ignorant that she could not sign her name, but a noted cancer-curer, named Elizabeth Fellow. This was long known as Lord Arundel's Cancer Cure. It was an arsenical powder, and a wash of corrosive sublimate, and no doubt killed a great number of poor women. However, like Plunket's paste, a great many cancerous and other tumors were removed entire by it; and Mr. Justamond, who was Surgeon to the Westminster Hospital some seventy or eighty years ago, tried them both very extensively, arriving at the conclusion that the advantage gained did not compensate for the risk incurred. It is curious to find how Mr. Justamond anticipated much that has been going on in London during the last three or four years by cancer-curers, and it may be worth while to read you rather a long extract from a pamphlet he published in 1780, giving an account of his experiments. . . .

"Landolfi, a Neapolitan Physician, may be looked upon as the prince of the cancer-curers. He has been decorated with Orders of Knighthood by Sovereign Princes, has been alternately flattered and abused, and has made an immense fortune. He made no secret of his plan. 'Landolfi's paste,' as his caustic was called, was composed of equal parts of the chlorides of zinc, bromine, gold, and antimony, made into a paste with flour or liquorice powder. Sometimes he used the chloride of bromine alone, using it both externally and internally; and when the slough had been formed, he used lettuce poultices till it separated. There can be no doubt that Landolfi removed an immense number of cancerous tumors by his paste in Italy, Germany, and France, and that healthy granulations sprung up, and firm cicatrices very often resulted. He used to assert that out of four thousand cases of cancer he had treated, the

disease had not recurred in three thousand. This is what he *said*. He never offered anything like *proof* of the truth of this statement ; and when his caustic was tried in the hospitals of Vienna and Paris the conclusions arrived at were that it was decidedly inferior to the chloride of zinc. Landolfi went himself to Paris, and a number of patients were treated by him in the Salpêtrière, under the inspection of a committee of hospital surgeons. Their Report was published, and my colleague, Dr. Deville, has just favored me with a copy. The conclusions are, that the chloride of bromine, which is the only peculiarity in Landolfi's treatment, is quite useless as an internal remedy ; and that locally it only acts as a blister, raising the epidermis, and exposing the denuded part to the action of the chlorides of zinc and antimony ; acting, you observe, just as the ranunculus did in Plunket's paste, the nitrate of silver as used by Justamond, or like any common blister. The committee reported that the pain produced by this caustic was excessive, and that it did not secure the patients from the danger of erysipelas or hæmorrhage. Landolfi does not appear to have been more successful in Germany and France." "Dr. Pattison, as you may be aware, some three, four, or five years ago, occupied much the same position in London that Dr. Fell does now. Both are physicians with American diplomas, who have professed to cure cancer by secret remedies, who have treated a great many patients, and have published accounts of their treatment. The difference between them is, that Dr. Fell has at length made known the composition of the remedy he employs, while Dr. Pattison has not ; although it is pretty generally believed, and not without ground, that the essential part of his preparations was the dried sulphate of zinc, which Dr. Simpson showed in the *Medical Times and Gazette* a few months ago was a most useful caustic."

After some remarks on the comparative utility of caustics and the knife, and showing that an absolute cure cannot be expected from either, he asks, "what are we to do?"

"In attempting to reply to this, let me give you the rule at which I believe our best and most experienced Surgeons have arrived as to the use of the knife. It is, not to use it in the early stages of cancer,—not to use it unless the cancer is actually ulcerated, or growing so fast that the skin is about to give way. In such cases, especially where an open cancer gives great pain, and is wearing away the patient by bleeding or profuse foetid discharge, the knife is used in the hope of relieving suffering, and prolonging, not saving life. In some other cases, where a cancer causes great mental anxiety to a patient, you may remove it at her earnest entreaty, after explaining fairly the danger of relapse. I should speak here of the knife and caustics in the same terms, as in many cases it will not much signify which you select. In some cases, where the situation of the growth is such that the knife cannot be used safely, caustics are decidedly preferable. In others, again, where time is a

great object, you would choose the knife. It is sometimes a good rule to leave the choice to the patient, representing fairly the advantages and disadvantages of the two methods. If you decide upon using caustic, I think all the evidence before us goes to prove the chloride of zinc to be the most effectual and safest yet employed ; that it is a matter of great indifference whether it is employed as a paste or in solution ; but that its action is considerably hastened by scoring through the slough, as Justamond did, down to the living tissues beneath, so that they are not protected by the slough from the action of the caustic. This scoring is not so necessary when the chloride is used in solution as when it is used as paste, after destroying the skin by nitric acid ; and it is not at all necessary, if you use a pair of galvanic plates as your caustic. If you place a piece of zinc on any raw surface, and a piece of silver near it, connecting the two by a silver wire, the part covered by the zinc is destroyed very rapidly, and the slough formed is a very soft one, which is easily sponged away. I saw a case of cancer of the breast in a lady in 1854, with Dr. Lawrance, of Connaught square, in which we decided, on consultation, to adopt this method, and Dr. Lawrance carried it out most effectually. I should not be at all surprised to hear that the next great empiric who appears in London will profess to cure cancer by galvanism.

“Looking, therefore, upon both the knife and caustics only as the means of removing cancerous growth under certain exceptional conditions, what are we to do in the early non-ulcerated stages of cancer? This opens a very wide subject, which it is quite impossible to treat in a single lecture ; but I must point out to you that we can do a great deal more towards arresting, even curing cancer, than is generally believed,—that our art is not nearly so powerless as charlatans assert. Growths, with all the character of cancer, have occasionally disappeared under the influence of remedies : others have remained completely dormant for many years, without affecting the health or shortening the life of the individual ; and it is absurd to say that the disease was not cancerous in such cases because the patient recovered, or lived to old age unaffected by the local condition.”

The treatment which Mr. Wells chiefly recommends in this early stage is the bromide of potassium with cod-liver oil. Ordinary hygienic measures are useful, alkalies, to relieve digestive disarrangements, opiates, &c. ; friction and palpitation are useless, if not injurious, but Dr. Arnott's freezing process is beneficial.—*Medical Circular.*

On Redness of the Cheeks as a Symptom of Pneumonia.

Dr. Gubler takes up the old doctrine, that the redness of a cheek, in a case of pneumonia, indicates the side on which the disease lies. Modern authors have paid little attention to the subject, but Dr.

Gubler has satisfied himself, by extensive observation in the Salpêtrières, that the general law is true. The author has guarded against the fallacy which might result from the patient lying on the cheek presenting the greater redness, and has measured the relative temperature of the two sides of the face with the thermometer. Numerous cases are detailed, and the following is the summary of his observations: 1. The redness of the cheeks which commonly coincides with pulmonary inflammation, is not, as is commonly thought, a fortuitous circumstance, but a functional disturbance, bearing a definite relation to the disturbance of the respiratory passages. 2. This redness is not necessarily proportioned to the extent and degree of the anatomical lesion, but bears a relation to the intensity and progress of the inflammatory action. 3. A sensible, and sometimes considerable elevation of temperature (from 0.50° to 5.40° Cent., or nearly 1° to 10° F.) accompanies the hyperæmia, and gives it the character of active congestion. 4. The congested cheek corresponds to the lung which is the seat of phlegmasia, or the one which is most affected. 5. The flushed cheek is seen, not only in pneumonia, but also in the majority of other pulmonary inflammations—in those which accompany tuberculization, as in typhoid pneumonia, and even in capillary bronchitis. It appears to be most marked in pneumonia of the apices—a circumstance already pointed out by Bouillard. 6. The production of other morbid conditions may be promoted by the habitual hyperæmia of the face; thus a spot of erysipelas has been seen developed on the cheek of the affected side. 7. The redness of the cheeks in acute diseases of the lung, may be explained by the stimulation of their nervous plexuses extending to the brain, and reflected upon the respiratory nerves of the face. 8. The phenomenon may be regarded as a manifest example of sympathy established between two distant regions by the agency of the nervous system.—*L'Union Médicale*, No. 23, April 28, and May 2, 1857, and *Medico-Chirurgical Review*.

Utility of a Pudendal Bandage in Procidencia Uteri and Prolapsus Vaginae.—The *Lancet* of August 22d, has a short paper by Dr. J. M. WINN, with the above title, from which we make the following extract. The idea is practical and worthy of being borne in mind by those treating these troublesome cases:

There are few medical men engaged in obstetric practice who have not had frequently to deplore the inefficacy of the usual means to give support to the womb in cases of procidencia uteri. Pessaries, by dilating and relaxing the vagina, are worse than useless, and the perineal pad is also open to objection. The latter instrument affords a certain amount of support, but it does not prevent the cervix uteri from protruding beyond the vagina, by which means the mucous membrane of the os uteri becomes chafed and irritated through contact with the tape that passes over the pudendum, and to which the pad is attached. Mr. Baker Brown's plastic operation, when it can

be adopted, is unquestionably the most effectual remedy for procidentia uteri: there are, however, many cases where it is not available, and for these I would recommend the double *pudendal* pad, an appliance capable of giving great support to the uterus, of preventing its protrusion beyond the vagina, and thus adding materially to the comfort and health of the patient.

The apparatus is an abdominal belt and a pad attached to it by means of bands, which pass in front of and behind the pelvis. The peculiarity of the bandage consists in its having a double indiarubber pad or compress, which rests on the labia pudendi. The pressure is thus transferred to these bodies, which become, in fact, the immediate supporters of the uterus. Each compress is about four inches long and half an inch wide, leaving an interstice of about three-eighths of an inch inwidth, which forms a groove for the escape of the natural or other secretions.

The proportions which I have given above are the average size, and will be found to suit the majority of cases. It will seldom be necessary for the patient to wear the compress at night, when it can be removed, and thoroughly cleansed with soap and water. When the procidentia is excessive, the indiarubber air-ball pessary may be used, if necessary, conjointly with the pudendal bandage.

In young females who have not borne many children, and with whom economy is a great object, a simple band around the abdomen may be substituted for the abdominal support or belt. The latter appendage should, however, be always adopted when practicable; and where the abdomen is pendulous, its use is indispensable.

The first case in which I was led to adopt the use of a pudendal bandage was that of a young nulliparous female, aged twenty-three. Her complaint, procidentia uteri, came on six years after the first appearance of the catamenia, but she could not assign any cause for the disease. She worked as a harness-maker, in a sitting position, but her occupation did not require any great amount of muscular exertion. After trying the usual remedies in vain, I determined on applying a pudendal compress, and I was gratified in finding that by this means the uterus could be effectually supported.

A case of prolapsus of the anterior wall of the vagina, combined with procidentia uteri, which came under my care last year, illustrates very forcibly the advantages to be derived from a pudendal bandage. The patient was a married woman, thirty-three years of age, who had borne several children, and was suckling an infant when I first saw her. She suffered greatly from a constant desire to micturate. After wearing the compress for a short time, she called on me, and said "The bandage is the greatest possible comfort; I could not do without it."

I have only to add, in conclusion, that the result of my experience enables me to confidently recommend the pudendal bandage as a valuable though simple measure, which is calculated to place in comfort a class of patients, who not only neglect themselves, but are frequently neglected by their medical advisers, and condemned to drag on a suffering existence.

Puerperal Fever.—Dr. MURPHY, in the *Dublin Quarterly Journal* for August, has an able article on this interesting subject, from which we make two extracts :

“First, then, we deny the correctness of the term, ‘puerperal peritonitis,’ and feel assured that by applying it to this disease we fall into some very serious mistakes.

“Peritonitis is not a disease which can *seipso* be communicated ; puerperal fever can. Hence, by calling this disorder by a wrong name, our attention is drawn away from its most dangerous—its contagious character. We speak of it as peritonitis : nor is it until we find the peritonitis spreading from patient to patient that we take alarm, and at length discover that we are treating a different disorder. It is treated as peritonitis, and the result proves that our treatment has not the slightest effect. This error also causes great confusion in sanitary reports. Puerperal fever may prevail in a locality where the name is never heard. The Registrar-General tabulates deaths under the heads, ‘peritonitis,’ ‘phlebitis,’ ‘arthritis,’ &c., &c. The proportion of these inflammations is thus increased at the expense of this malady, and his returns are deranged.

“*Puerperal fever* does not agree with peritonitis either in the mode of its attack, in its symptoms, in its morbid appearances, or in the influence of remedial agents upon it. Inflammation of the peritoneum can generally be traced to some obvious cause. If after severe labor, inflammation, which commenced in the passages, may extend to the uterus, and thence to the peritoneum ; or perhaps the uterus may become inflamed in its reaction, after the refrigeration and other means necessary to control violent flooding ; hence peritonitis, or rather, metropertonitis.

But when we find peritonitis appearing quite suddenly, after, perhaps, a perfectly easy labor, when the most careful attention has been given to the patient, and no possible cause to excite it exists,—when the inflammation advances with a rapidity and an intensity almost incomprehensible, the conclusion is obvious, that the nature of the complaint is something more than inflammation ; the mode of its attack betrays an obvious difference.

“The *symptoms* in parallel cases are not the same. Peritonitis commences in the neighborhood of the uterus ; the pain is first felt there. The pain in puerperal fever frequently commences in the epigastrium, and the diaphragm may be the first engaged ; violent stitches through the ribs are often one of its earliest symptoms, and precede distention of the abdomen. Headache is not a symptom of peritonitis ; it is constantly met with in puerperal fever. The most remarkable difference, however, may be observed in the effect produced on the digestive organs. In peritonitis the action of the bowels is suspended ; constipation is the result, and often so obstinate as to resist very powerful purgatives. A violent diarrhœa is frequently the first symptom of puerperal fever. Vomiting may occur in both ; but, like diarrhœa, may be a first and most urgent

symptom in puerperal fever, which is never the case in inflammation of the peritoneum.

"When this scourge is in its maximum of intensity, we are not left to such distinctions as these to determine its nature, because, in some of the very worst cases, there is no symptom of peritonitis at all. A case has fallen under my notice, in which the abdomen was perfectly soft, free from pain on pressure, and not the slightest symptom of inflammation in the peritoneum or anywhere else; yet this patient was so completely under the influence of this fever, that she died in twelve hours from the first symptom of the attack, and after death the usual sero-purulent effusion was met with in the abdomen. The intestines were covered with the creamy exudation commonly observed."

Of the treatment of the disease Dr. Murphy says :

"*Depletion in puerperal fever* is a much disputed question. Some are the warm advocates, others the equally zealous opponents of the practice, but it is worthy of notice, that in this controversy, those who applaud depletion recommend twenty, thirty, even fifty ounces of blood to be taken,—a quantity which would be fatal in peritonitis, inasmuch as in some of the severe forms of this inflammation we cannot bleed at all.

"Peritonitis arising from the escape of faecal matter into the intestines—from the bursting of an abscess into the peritoneal cavity—from ruptured uterus, or if it should follow the operation of paracentesis in debilitated subjects—will not admit of depletion, because of the depressing influence of the constitutional shock; but in parallel cases of puerperal fever, in which the powers of life are equally prostrate, Mackintosh recommends a large blood-letting, and in order to adapt his theory to his facts, he calls this condition '*latent peritonitis*'—peritonitis without its symptoms! This inflammation has laid prostrate the powers of the constitution, and depletion, by subduing it, restores them. Such is the theory, but it is obvious that when peritonitis has such an effect, depletion is impossible, and, therefore, we must seek some other explanation of its reported success in the cases quoted by Mackintosh. That which we would suggest is, that the principle upon which depletion is beneficial in puerperal fever is different from that in peritonitis, because they are different diseases.

"*Mercury* is a remedy commonly used to control peritonitis. I have found it perfectly useless in the treatment of puerperal fever; my experience is confirmed by Drs. Collins and M'Clintock, both of whom tried it extensively in the Dublin Lying-in Hospital. Dr. Collins remarks:—"It is supposed by some practitioners that when we can get the system under the influence of mercury, recovery is certain. This is not the fact, as I have seen in several cases in which death took place under these circumstances." In his valuable account of the recent epidemic in the Dublin Lying-in Hospital, Dr. M'Clintock observes, that '*mercury* was tried in a large proportion of cases and in various doses, but I cannot say that I ever observed

any decided improvement to have been traceable to its specific action on the system. In some cases the disease progressed with such frightful rapidity that absolutely there was no time for the drug to make an impression on the constitution; in other cases mercury seemed to produce diarrhœa, and had, therefore to be laid aside; in two cases death occurred, notwithstanding that ptyalism had been excited.

"*Opium* is most valuable in that form of peritonitis in which depletion cannot be employed. It is probable that in such cases it acts as a stimulant, and restores nervous energy, impaired by shock to the constitution. It may have a similar effect in puerperal fever, but opium alone is never sufficient; other agents are combined with it, and with this object *camphor* has been given in very large doses. Dr. Copland has given eight and sixteen grains of camphor combined with opium for a dose.

"If this comparison between puerperal fever and peritonitis proves that there is an observable difference in the manner of the attack, the symptoms, in the post-mortem appearance, and the effect of remedies, it follows that it is incorrect to call them by the same name. Designating this plague by the gentler epithet, 'peritonitis,' becomes a most dangerous misnomer, which we regret to observe so very generally employed."

Catamenial Gonorrhœa and Syphilis.—MR. FREDERICK C. SKEY, Surgeon to St. Bartholomew's Hospital, has recently lectured on Gonorrhœal Rheumatism. The *London Medical Circular* gives us the lecture, from which we make the following extract, bearing upon a point of great interest:

I saw some time ago another most remarkable case of this kind—the splitting in pieces of a family might have occurred from the railway and ignorance of the hospital surgeon, but he could not see it. A respectable-looking married man came with this catamenial gonorrhœa; he was very much puzzled about it, but the surgeon laughed at him: "So ho, my fine friend," he said, "you've simply gone and done it, you've been with the girls." The man said not,—that from the nature of his business it was impossible. "Then some one has been with the girls or with your wife, for you have the bad disorder—that's the short and long of it." The man protested, till at last he swore an enormously large oath at the ignorance of us all. "Why, I have committed as many crimes as many men, and why should I be such a fool, if I wished to be cured, as to say if I had, that I had not had intercourse with a woman." I don't believe he had, but that it was one of the dozens of cases where the irregularities of married life had given rise to a gonorrhœa or blenorrhœa, that I defy you to distinguish from common gonorrhœa. I say there is a "*tertium quid*" engendered during the period of ovulation or menstruation in the female, that may give rise to gonorrhœa, but I do not believe in syphilitic inoculation. If you know how to treat

rheumatism you know a great deal also of this disease. Mr. Abernethy, as I said, already went to the threshold of the subject, as regards "rheumatic gonorrhœa," or what you will see copied in the books and manuals as gonorrhœal rheumatism. Evans and Rose and Hennen, away from the coteries of London, settled the thing for ever. You are probably aware, the prostitutes in France are all examined at stated times, and are furnished with clean bills of health? Well, Evans saw several hundreds of these women examined, and only three were diseased: but he had 153 soldiers under his care at that moment with syphilis! I say how did these 153 soldiers become diseased from three women? How did they get it? Where was it to come from? To my mind, now, it is as clear as that chloroform will produce insensibility, or any other fact in surgery; they got it from the clean women and not from the diseased. I told you of Torres Vedras. This army was inaccessible for a long time, and dozens of officers had intercourse with the couple of girls dancing at the theatre. These girls, mind you, in good health, yet shoals of these officers came to England with bad phagedænic sores. Do you think they got phagedæne directly, as Mr. Hunter would think, from these girls? I don't.

Well, I'll tell you another case, and within a very short period of the present—not to go back to Torres Vedras or Waterloo, or tire you with what you will find decked out in the books of the schools—the case of a lawyer. [I am glad it's a lawyer, if it must be somebody—(laughter)—lawyers are so wedded to do nothing if erroneous to the decision of their judges.] It was, in a word, the counterpart of the first case—seduction—love (the old story)—seduction, gonorrhœa, and a crop of sores. I examined the lady with the utmost minuteness. I sifted this case carefully. I believe there was no disease whatever in the lady nor in the gentleman, previous to the occurrence. Yet all the—what shall I call it—legal evidence was the other way. Legal proof on medical subjects at present is the greatest absurdity under Heaven; because well-bound books on surgery say one thing to a man with a wig and gown on, and because a surgeon's opinion, which is not only *viva voce* and original, but fairly worked out after thirty or forty years' analysis of facts and cases in hospitals, must be thrown to the winds, in favor of the *dictum* of some old book, or some new book copying the old.

I say this material syphilitic infection is all a fallacy. I don't believe either in all that black letter lore of syphilis coming from St. Domingo with Columbus in the 15th century. Gonorrhœa is detailed in our oldest and most sacred of books.

Mr. Skey next stated the particulars of a very interesting case—a case of most frightful phagedænic sores in a gentleman, like those of the officers sent from Lisbon, but where the disease was clearly the result of scrofula, or some such constitutional taint in the gentleman's system, aggravated by those injudicious courses of mercury, ordered for a very simple affection at first. The case was one, also, where the hymen was ruptured for the first time, but not a trace of disease existed in the lady.

"This old mercurial school,* however, still holds out," Mr. Skey continued to say, "I am sorry that even men like Sir B. Brodie still belong to it; it is not true that a woman who will allow one man to her embraces will allow any other; and if the disease be checked by mercury—*post hoc*, &c.—that we should go on giving it! In this last patient it made all this difference; that whereas Rose, or Evans, or Carmichael would have cured this gentleman without mercury; in following the plan of the older schools, he was at the point of death, owing to the mercury, under the first advice in London, affecting the membranes of his brain. We shall not speak of the hideous mutilations of face and nose, the time sacrificed away from business on the sick list, and the marks which rupia too often leaves on the forehead and face. I am satisfied, and you will be so, too, when you see some practice, that all this old-fashioned dosing system with mercury is bad. I would almost go so far as to say, that the very worst cases of syphilis, so called in men that I have seen, have been the result of something wrong with the man rather than with the woman; and where the "*tertium quid*" was aggravated by this system of giving mercury, as a piece of murderous old routine in all cases alike!

Well, a few words now as to gonorrhœa and rheumatism. Is there such a thing as spontaneous gleet? Yes—it is a catarrh of the parts; I know a gentleman who has had gleet; but he has been several months, aye years, in bed for another disease, and he had no possible manner of getting gleet.

You will find gonorrhœal rheumatism is eccentric gonorrhœa; mostly in oldish people, the disease mild or the opposite, fond of fits and starts or aberrations; it is gonorrhœa in a rheumatic system, † but not rheumatism connected as a secondary symptom or as cause and effect with gonorrhœa. I am satisfied gonorrhœal rheumatism and gonorrhœa are children of one parent, and not related as rheumatism the child of gonorrhœa—the parent.

I will now tell you more: I have seen *every form of syphilitic disease* as obtained from healthy women. These cases occur in the better ranks of society, with men who are above suspicion. What is sometimes shocking in a moral point of view is of the utmost value to us pathologically. But I must not dwell on these cases. The

* When Mr. Abernethy was investigating the nature of syphilis he went round to all the most experienced surgeons in London, and asked two questions: first, whether syphilis is capable of spontaneous cure? and whether the primary symptoms can be removed and the disease cured without the aid of mercury? To both questions he received the well known answer—"Both are totally impossible." Mr. Rose, of the Coldstream Guards, a little while after showed that the spontaneous cure of syphilis is very common, while the old salivations with mercury are as entirely given up as amputations with red hot knives.

† Dr. Fuller shows that acute rheumatism is the result of a morbid matter in the blood, and cold acts as a predisposing cause of eliciting the disease. In about 30 per cent. of cases also it is hereditary. Drs. Egan and Ricord look on "complicated gonorrhœa" as always associated with urethral chancre, and where in the female there are vaginal abrasions the disease will be followed by a mild form of secondary eruption, &c., whether these views may throw any further light on the subject may be worthy of consideration.

gentlemen come to me expressing their unbounded astonishment, yet if you make the most careful search, even with the speculum, there is no disease in the lady, it would be almost a relief to one's mind to find something, but there is no disease whatever. No! it is all fallacious.

On the Cholera in Children. •

Dr. Mauthner reports that, in the year 1855, which was a year of scarcity, the cholera at Vienna committed great ravages. Of 78 severe cases occurring in children admitted into his Klinik, 52 died, and 26 recovered; while of 92 slighter cases received into the Polyklinik, 34 recovered, 10 died, and 15 were taken to the Hospital. Of all the epidemics since 1831, this has proved the most fatal. Of near 5,500 cases of cholera which were officially made known, one-half died; and the children, taken alone, did not exhibit more fortunate results, for only one-third of the more severe cases recovered, and altogether only one-half. Dr. Mauthner distinguishes three forms:—*cholera levis* (diarrhœa choleraica), *cholera gravis*, or *vera* (vomiting, diarrhœa, and cyanosis), and *cholera gravissima* (cholera sicca, asphyctica, fulminans). Of all the means he has found to exert the most decided effect in children, is the nitrate of silver, but, in dangerous cases, it has to be given in rapid and large doses. Thus a clyster containing two grains in an ounce of water, with some oil, was administered every hour, while every quarter of an hour a teaspoonful was given of a solution of one grain in two ounces of water. This medicine was often the only one that the child would take that kept on the stomach, while it produced no ill consequences, and always at least arrested the pathognomic watery diarrhœa. This was not necessarily followed by recovery, for the blood, becoming so totally changed from the commencement, all often proved in vain. Frequently, however, by the cessation of the diarrhœa and vomiting, time was gained, which, in a disease of such rapid course as the cholera, is of great value.—*Journal fur Kinderkrankheiten, Band 26, p. 430.*

Statistics of the "Umbilical Cord." By Mr. BEALE.

"On looking over a record of midwifery cases attended by myself, I was astonished at the number of times in which the umbilical cord was found encircling the neck. In 1,220 cases, it was once wound round the neck in 175, twice round in 32, and thrice round in 7 cases. In 1 case, the cord was crossed over the chest and back, and looped under both axillæ; it measured 58 inches in length. In 3 cases there was a single knot on the cord, and on one funis were two knots. Dropsy of the cord occurred once, increasing its breadth to two inches, and rendering it very tortuous. The shortest cord was five inches in length. (In Dr. Rigby's 'Midwifery' there is mention of a case in which it was but two inches long, and another in which its length was 61 inches, *vide* page 182.) I did not notice any unusual retardation of the labors in those of my cases to which

I have referred, only more or less lividity of the neck and face, according to the time spent in the head passing into the world.

"These cases give, as the average, about 1 in 5 in which the cord is so coiled. It seems surprising that in cases of alleged infanticide the plea of death being caused by the pressure exerted by the funis (without help) has not been seized upon to any extent by the counsel for the defence, for such a liability must tend to diminish the chances of life. These cases, however, rarely go beyond a charge of concealment being sustained."—*Medical Circular*.

Statistics of Placenta Prævia.

Dr. Schwarz, of Fulda, in Hesse-Cassel, having heard the frequency of placenta prævia stated in a medical society as far greater than he had hitherto believed it to be, examined, in reference to this point, the official returns made by the Hesse practitioners. These were supplied by 150 accoucheurs, during a period of twenty years, *i. e.*, from 1835 to 1854 inclusive. They related to 519,328 births, and among these were only 332 cases of placenta prævia—the numbers varying from 8 to 28 per annum. Of these 332 cases, 246 women recovered and 86 died; 251 children were born dead, and 85 were born living. In 40 instances the women were primiparous, and in 292 pluriparous. Podalic version was performed in 259 cases, and cephalic version in 7, while in 23 instances the children were removed by the forceps, in 6 by craniotomy, and in 13 by post-mortem Cæsarean section. In 8 instances the placenta was removed, and in 16 the plug was resorted to.—*Medical Times and Gazette*.

Chloride of Zinc Paste in Uterine Polypus.

M. Reybard, of Lyons, has published in the *Gazette Médicale de Lyon*, a case of fibrous polypus, the casting off of which he procured by thrusting little cylinders of chloride of zinc paste into the pedicle, previously perforated by a trocar. The tumor, which was large, and implanted high in the cavity, was removed by gentle traction twelve days after the operation. The patient suffered very little pain. M. Reybard thinks this operation preferable to excision or the ligature; the first being, according to him, liable to fatal hæmorrhage, the second being often followed by severe pain and inflammation. Many objections might be offered to the use of the caustic; and considering the slight pain which generally accompanies the ligature, it is likely that surgeons will pause before they adopt the former in preference to the latter operation. We thought it, however, right to give publicity to M. Reybard's success.—*Lancet*.

Memoranda of a New Method of Measuring the Thorax.

Dr. Woillez has presented to the Academy of Medicine a new instrument for measuring the thorax, which he terms a cyrtometre, with which he avers that he can at once determine the modifications of certain diameters, and of the circular outline of the thorax. He

is of opinion that the method of mensuration hitherto pursued is erroneous, because based upon two false principles, the one being the supposition that the healthy side presents an uniform capacity, while the diseased side alone is regarded as susceptible of modification, the other being the opinion that mensuration is a means of diagnosis, in the strict sense of the word. The instrument consists of joints of whalebone of two centimetres each, movable in such a way that, when applied to any surface, the whole may take and retain the curve of that part. The outline of the curve of the thorax thus obtained being transferred to paper, the comparison of curves, taken at different periods of the malady, aids to determine the successive changes in the affected part. Without diagrams, it would be useless to go more into detail.—*Archives Générales*, p. 583, May, 1857, and *Medico-Chirurgical Review*.

Treatment of Paraphimosis in Children.—M. Bokai thus describes the method which Balassa uses at the hospital for children, at Pesth, to produce compression in this class of cases. The results are, he says, excellent.

After having well cleansed and dried the penis, a strip of adhesive plaster, about three lines wide, is applied longitudinally from the middle of the under surface of the penis, passing over the prepuce and gland, but avoiding the orifice of the urethra, to the middle of the superior face. Another band is carried in the same manner over the gland, from one side to the other of the penis. In large children a third or a fourth band may be necessary over these first thus arranged, another strip three or four lines wide and six or eight inches long is firmly rolled around the gland back of the meatus urinarius, and on the prepuce, so as to cover half of it nearly to the middle of the penis. For greater security a second strip may be applied over this. This compression is well borne, and in twenty-four hours the tumefaction is sufficiently diminished to require the reapplication of the dressing. The difficulty is ordinarily cured in forty-eight hours.—*Schmidt's Jahrbücher*.

EDITORIAL AND MISCELLANEOUS.

In our last number we gave a lengthy account of the labors of the distinguished physiologist, Dr. MARSHALL HALL. We are enabled this month to present to our readers a statement of the lesions found at the autopsy, which we extract from the *Lancet*. It seems that the disease which caused his death had been insidiously increasing upon him for many years, the first symptoms having been observed fifteen years since. In 1853–54 he visited the United States, and the following Winter and Spring he passed in Italy, and after his return to

England from this tour the symptoms of permanent stricture of the œsophagus were fully established. From this time till his death he lived entirely on food taken in a liquid form, and for several months nourishment was given in great measure in the form of enemata, the food taken by the mouth being principally confined to milk. This was continued until the rectum ceased to retain the enemata, when he gradually sunk, and died August 11, maintaining his consciousness to within a few minutes before his death.

The post-mortem examination of the body was made by Dr. Ransom, of Nottingham, thirty-eight hours after death.

The body was emaciated. No external marks of decomposition.

Thorax.—The lungs did not collapse on the cavities being opened. The right one was universally adherent by old adhesions; the substance of the lungs healthy; no pleuritic effusion.

The pericardium contained nearly two ounces of dirty red fluid. The heart was flabby (perhaps from cadaveric changes); it contained frothy blood in the right ventricle and auricle. The valves were competent. There were some slight atheromatous deposits on the inner surface of the aorta, which was stained a deep red.

The bronchial glands were larger than usual, soft, and black.

On making examination of the parts higher up in the throat, it became evident that some undue thickening and adhesions existed behind the larynx. The latter was therefore removed, with the pharynx, œsophagus, and trachea. In doing this, the intimacy of the adhesions necessitated that the knife should be carried close to the bodies of the corresponding vertebræ; with every care, however, button-holes were made in two or three places. On removal, it was seen that the walls of the pharynx were extremely thin, and that its cavity was dilated. Through the openings made by the knife there escaped a dirty-brown flaky fluid, of a creamy consistence. The adhesions were to the bodies of the sixth and seventh cervical and first and second dorsal vertebræ.

The parts removed, when examined, showed a stricture of the œsophagus, about the level of the eighth ring of the trachea, and a dilatation, with ulceration and vasculature of the œsophagus and pharynx above the stricture, to the extent of nearly three inches. The stricture was attended with but moderate thickening of the tube, and the aperture was not very small, but the membrane was folded in, so as to present a conical eminence upwards, the apex of which was opposite the narrowest part of the stricture, which here was rather larger than a goose-quill. In this way the passage was almost valved, and food would have had the tendency to pass down by the sides of the eminence into the pouches and sacculi of the ulcerated portion. Indeed, the finger passed down from above, previous to opening the œsophagus, could not enter the passage, though a similar difficulty did not exist if the finger was passed from below the stricture. The upper border of the ulceration was on each side about level with the bases of the arytenoid cartilages, but did not extend so high in the

middle. The dilatation was throughout irregularly ulcerated, soft, pulpy, ragged, of a dirty-grey, or slate color, and with a few loosely-adhering flakes on its surface. Its base was not much thickened, though here and there it was somewhat so, and felt firmer in such parts. The walls of the pharynx and œsophagus were perforated in several places, leading to pouches or sinuses amongst the muscles of the neck, having very thin delicate walls of false membrane. Two of these pouches were very large, and ran upwards on the outer surface of the thyroid cartilage, one on each side as high as its upper border, the right pouch being the largest. A narrow slip of mucous membrane remained at the back of the trachea, but this at the lower extremity was quite undermined.

At the lower part of the dilatation the ulceration had nearly perforated the trachea through the posterior membranous wall, and had set free the right extremities of the fourth, fifth, and sixth cartilages. The pharyngeal mucous membrane above the ulceration appeared nearly natural, except for two or three little rounded elevations, as if there was a deposit in the mucous membrane, each less than half a pea in size. There was a small pendulous polypus attached to the thyro-epiglottidean fold. The œsophagus below the stricture was healthy.

In the mucous membrane of the trachea directly corresponding to the deep ulceration which threatened to perforate it, was a small deposit, or growth—semi-transparent, solid, and slightly elevated. There was a similar one higher up, inside the cricoid cartilage, but it was more opaque and white.

The patch on the tracheal mucous membrane was cut across, and from a section of it were obtained cells which possessed all the characters of cancer-cells. They were delicate, large, irregularly angular, with elongated processes; some were, however, rounded,—had peculiar large nuclei and nucleoli, often several of these in one cell, and sometimes a cell-wall around one or more of the contained nuclei. Some few of the nuclei presented a delicate, regular radial striation, which Dr. Ransom observes he had not before seen. These cells were contained amongst the meshes of the elastic tissue. From the whiter patch on the inside of the cricoid cartilage, similar cells were obtained, but they were fattily degenerated, and therefore were less characteristic. From the base of the ulcerated surface Dr. Ransom found in parts examined no satisfactory evidence of the nature of the pathological process which had preceded; but amongst a mass of granular and fattily degenerated elements, several bodies were always seen resembling retrograde cancer-cells.

The fluids from the surface of the ulcer consisted mainly of molecular detritus and fat, in drops and granules, with a great number of epithelium scales, mostly of the scaly variety; but a few were cylindrical and ciliated, probably separated from the upper parts of the pharynx. In the little elevations on the mucous membrane of the pharynx, nothing was found but globular corpuscles and cells filled with fat granules, of various sizes, and one beautiful hexagonal crystal-like cystin was observed.

A portion of the pharynx and œsophagus, examined by Mr. Caesar Hawkins, Mr. Pollock, and Mr. Holmes, curator of St. George's Hospital museum, gave the following results :—

1. A portion of the disease was surrounding the great vessels in the neck, and apparently making pressure on the upper part of the pharynx. The interior appeared of a cellular character. Sections showed fibrous tissue, with numerous nuclear bodies, and much fat.

2. A small tubercle, beneath one of the rings of the trachea, contained an immense number of nucleated cells, resembling those of healthy epithelium, but of more curious form and size, also a good deal of fat.

3. A mass containing dark masses (of black pigment), otherwise exactly resembling the portion first mentioned.

—The statue of Bichat, designed by the sculptor David, a notice of which we gave in our August number, has been successfully placed in the courtyard of the school of Medicine in Paris. The uncovering of the statue was made the occasion of a brilliant oration to the memory of the distinguished author of the work "On Life and Death," in which many of the learned and scientific men of France participated. Thus France honors her great men, and thus she stimulates the living by not forgetting the dead. The statue of Bichat, looking down from its pedestal in the courtyard of the school of Paris, through which the thousand students daily pass, tells to each and every one of them how France delights to honor her great men.

—France, too, is cosmopolitan in her distribution of posthumous honors. Not content with raising enduring monuments to her own distinguished dead, in the munificence of her bounty she pays her debt of gratitude to the great of other countries. It is proposed to elevate a statue to the memory of Jenner, and Boulogne-sur-mer, the most frequented point of transit between France and England, has been selected as the place where to erect it. In the rivalry of the two countries it would not be astonishing if the statue at Boulogne should anticipate the one in England.

M. Despres thinks that death, after the inhalation of chloroform, is caused by the base of the tongue, which weighs down upon the epiglottis and prevents the passage of air. The best way of relieving the patient is to introduce the forefinger into the throat, to carry the extremity of it to the superior opening of the glottis, and curving the finger like a hook, to draw the epiglottis and the tongue upward and forward.—*Révue de Thérapeutique*.

[To relieve this difficulty, Marshall Hall recommended that the person should be placed on his face, with his hand under his forehead,

and the chest raised as by a coat doubled up. The tongue then falls forward from its own weight.—EDS. MONTHLY.]

The American Journal of Pharmacy thus speaks of Dr. E. R. SQUIBB, whose article on Chloroform we recently published in the MONTHLY. We wish him success in his new engagements.

Our readers have become familiar with the name of Dr. Squibb as the author of various papers which have appeared in this journal during several years past ; during which period (and before) he has conducted the manufacturing department of the United States Naval Laboratory, at Brooklyn, in a highly satisfactory manner, and supplied to the navy the pharmaceutical preparations of the Pharmacopœia in a uniformly good condition. Notwithstanding the importance of his service, the emoluments of his office are limited to the small salary of Passed Assistant Surgeon. At his own request Dr. Squibb has been detached from the Naval Laboratory in order to accept the position, *temporarily at least*, of manufacturing copartner in the firm of Thomas E. Jenkins & Co., of Louisville, Kentucky, which firm is about to establish, in connection with their drug business, a large manufactory of chemical and pharmaceutical preparations under the title of "Louisville Chemical Works." Prof. Smith, of the University of Louisville, is also a partner in the firm. Dr. Squibb will have charge of the manufacturing department of the works, and Mr. Jenkins the commercial department, leaving the financial department for Prof. Smith.

Located near the centre of the great valley of the Mississippi, the firm intend to seek their market chiefly West of the mountains, and as the pioneer establishment of this kind, out there, proposes to adhere strictly to the Pharmacopœia in the purity of their preparations, on which condition only Dr. Squibb entered the firm, as he is well known as the uncompromising enemy of adulterated drugs and chemicals, come they from what quarter they may. We trust, with intentions so fair, they may meet success, and join our friends Powers & Weightman, Rosengarten & Sons, and other houses, in developing the resources of this great country, and stopping the influx of foreign chemicals.

The following anecdote of the celebrated Surgeon of the Empire, we take from the *Edinburgh Medical Journal* for July :

Larrey, the Soldier-Surgeon.—If there is any man of whom the Pyrenees may be proud to have given birth, it is he who was pronounced by Napoleon I. to be the most honest man in his Empire. Endowed with a noble heart, vast intelligence, and a vivid imagination, Larrey was indeed worthy of the friendship given to him by the greatest man of modern times. His name, too, holds an equally distinguished position at the present day, not only among men of science, but amongst all who are the benefactors of humanity. "If ever the army raises a column of gratitude," said Napoleon, "it

owes one to Baron Larrey." This debt has been paid ; the government, the army, all France, has joined in the national labor of love, and the truthful bronze now recalls to us the venerated traits of him, whom we may justly term the father of French military surgery ; for, from Ambrose Paré,—of whose illustrious memoirs but an incomplete fragment has been transmitted to us,—up to the first revolution, medicine was in its infancy. In the first days of the republic, everything had to be done ; it was necessary to create, to organize ; and the genius of Larrey alone was capable of this immense undertaking. Formerly our wounded soldiers were carried to a distance from the field of battle to receive the surgeon's first attentions ; and many, too many, alas ! died before they traversed the route to the ambulances. Larrey, seeing the insufficiency and danger of this system, at once ordered that the wounded soldier should be cared for, even under the fire of the enemy, and that the military surgeons should share with their comrades the danger of war ; from this arose his system of ambulance carriages, containing every necessary provision for acting on the spot. From this time, too, the French army surgeon, who had before been considered a sort of accessory to the army, gained definitively his place of honor on the field of battle. Larrey formed one of that phalanx of *savants* who accompanied Bonaparte to Egypt ; he was the friend and rival of Baron des Genettes, who immortalized himself by his heroic conduct among the plague-stricken at Jaffa. In this rough and laborious campaign he rendered such services to the French army, that this page alone in his life would have served to hand his name down to posterity. Later, in all the capitals of Europe, his voice was heard among scientific men, and philosophers of all nations came to listen to his instructions. Even kings honored him with their friendship. After the coronation of the Emperor, when that great captain wished personally to distribute the star of the Legion of Honor, he told Larrey that he intended to name him commander of the order. But although a surgeon-in-chief, he would not receive alone this distinction ; and he told the Emperor that he would not accept the honor, without Baron Percy—another eminent surgeon—were accorded the same favor. Napoleon yielded, and the two representatives of French military science were thus named at the same time commanders of the Legion of Honor. This fact pictures the character of the man. Above all else a man of heart, he always remained pure and independent among the courtiers, who only echoed the opinions of their master. It was not obstinacy, but a free spirit and truthful disposition. Let us see what he did at Esling, when the French army was surrounded, and want began to be felt, even in the ambulances. He told them to kill his own horses, and upon his responsibility to sacrifice a great number of those of the superior officers, to make *bouillon* for his sick and wounded. The indignant generals, of course, demanded reparation against Larrey, and the Emperor summoned the surgeon to his presence. "What have you to say to this accusation?" said he. "Sire," replied Larrey, "the sick

are my children ; I owe to you an account of their lives ; under these circumstances, I but did my duty. Besides, of what do these gentlemen complain ; they have a horse each left, while I have killed all mine !" What could Napoleon do ? He could not be angry ; he pardoned the man for his intrepidity and honesty. When the harassed and maimed relics of the Grand Army were crossing the bridge of the Beresina, not one stayed to save his general, his friend, his father, not even to preserve his flag. Suddenly, on the middle of the bridge, a buzzing whisper ran through the crowd—a name is pronounced—hands are stretched out—a man is passed from arm to arm with all the care affection can suggest—that man was Larrey ! After the battles of Lutzen and Bautzen, a number of soldiers were wounded in the hand by ill-constructed weapons. At the same time treason was suspected in the camp, and the gloomy mind of Napoleon saw in this a fresh proof of it. He summoned his generals to a council of war ; they confirmed his suspicions, and, furious with jealous rage, he ordered Larrey to draw up a report upon the matter. Larrey presented it, and the Emperor paced the tent in great agitation, digging up the turf with the end of his cane. "These men are guilty," he said. "They are not, sire," replied the intrepid surgeon ; "the accusation of treachery is a calumny for which you will have to account to history." "Begone," said the Emperor, "I will make you know my pleasure." Larrey, calm in the security of a good conscience, retired, satisfied that he had done his best to save the lives of the innocent. A few hours passed, and at last Napoleon summoned him. "Thank you, Larrey," said he ; "alas ! why am I not always surrounded with men like you ?" Bonaparte spoke truly ; if he had only been advised by men of such energy and greatness of heart, in the days of his misfortunes, he might never have fallen. We must return to Larrey at Waterloo, where he had gone to assist at the obsequies of the Empire. His horse was killed under him ; he was wounded in two places ; he was crushed on the ground among the flying crowd ; they had made him prisoner, and the Prussians were on the point of shooting him, when one of the enemy's surgeons, an old pupil at Vienna, recognized his old teacher, and hastened to apprise Blucher. His life was saved, and a guard of honor escorted him to the French frontier. They could scarcely do less for such a man. After the Restoration, he retired into the shade, shut out from the Court. Surgeon-in-chief of the hospital of the Guard, he had neither distinctions nor honors ; he was neither Peer of France nor Grand Cross of the Legion of Honor ; he had almost forgotten the road to the Tuilleries of the Bourbons. One day a guard presented himself to him with a letter of recommendation. "What do you wish ?" said Larrey. "I would like to be corporal, Monsieur le Baron." "Alas !" replied the surgeon of the Emperor, "I have made generals in my time, but to-day I don't know whether I have interest enough to make a corporal." In 1830, the hospital of the Guard was on the point of being attacked by the mob ; the authorities were unable to check them, when

Larrey appeared and said : " My friends, we have only sick people here ; every good Frenchman ought to respect *this* asylum." The crowd instantly retreated with a round of applause to the gallant veteran. He was an old man, still active and energetic, however, and he felt that but a few years separated him from the tomb, when an irresistible desire seized upon him to revisit Africa, the scene of his earliest labors. The Government yielded to his request, and he set out. His journey across the African provinces was one continuous ovation, an immense triumph ; and his son, a *savant* worthy of the great name he bears, witnessed how his illustrious father was venerated by the French army. The presentiment entertained by everybody as to the result of climate and camp-life upon Larrey, soon realized itself ; and on his return to France, he fell a victim to the illness incurred by his devotion. His remains were conveyed to Paris. The Government of July refused the tomb of the Invalides to the captive of Saint Helena, but the city of Paris spontaneously awarded a place therein to the citizen who had so well deserved of his country. A crowd of soldiers, *savants*, and people, mingled in one mournful procession, followed Larrey to his last resting-place. His numerous works, conceived, as it were, under the fire of the enemy, collected from nature and enriched with ideas the most rare, are mines of information of which France may be proud. Friend of the Emperor, philosopher, a man of excessive energy, noble character, true heart ; masculine and imposing in appearance even among the greatest men of the empire, Larrey is worthy of Immortality.

Therapeutical Properties of Iodate of Potassa.

The happy results obtained with the Chlorate of Potash in different affections of the buccal mucous membrane have induced MM. Demarquay and Gustin to ascertain if the therapeutical properties of this salt were not common to the other salts, whose chemical analogy to the chlorate was so striking, for instance, the alkaline iodates and bromates. Following up this purely theoretical idea, MM. Demarquay and Gustin made their first trials in connection with M. Monod, in whose service their experiments were conducted.

They first used the iodate of potassa, which they themselves had prepared, in order to secure its chemical purity.

The success attending these trials exceeded their expectations. During the past year they constantly substituted the iodate of potassa for the chlorate of the same base, and now feel authorized in replacing the chlorate by the iodate, which they say acts quicker, more energetically, and in smaller doses.

The iodate of potassa has given most excellent results in cases where the chlorate had failed. The dose varies from grs. v. to ʒj .

They prescribed this salt in diphtheritis, in mercurial stomatitis

especially, and in a case of gangrenous stomatitis ; in the last, the efficacy of the medicament was very prompt.

Its action upon the pharyngeal and buccal mucous membrane in the healthy state, they add, is very remarkable. In the dose of from $\mathfrak{Dj}$. to $\mathfrak{Zss}$. it produces in the mouth and throat a particular sensation of constriction.

The glandular secretion seems to diminish under its use, and if we might again give ourselves up to speculation, we think that by the introduction of the alkaline iodates and bromates into therapeutics, an advance will perhaps be made towards the cure of pseudo-membranous affections.—*Revue de Thérapeutique*.

[It will be observed that this salt is not the *iodide* of potassium, but the *iodate* of potassa.—EDS. MONTHLY.]

Large Doses of Opium and its Salts, in Cases of Insanity.

Dr. Richard Oliver, Resident Physician to the Salop and Montgomery counties (Eng.) Lunatic Asylum, has lately published in the *Lancet* a letter to one of the Commissioners in Lunacy, upon the use of opium. We have not room for the whole letter, but note the doses which were given in several cases. One patient, laboring under melancholia, took three grains of hydrochlorate of morphine regularly, "for some time," with her evening meal. Not improving, after a fortnight of this treatment, the dose was increased to four grains and a half daily. She then slept three or four hours every night. Several weeks later (precisely how many is not stated), on the 1st of December, with the view of controlling a more than ordinary degree of agitation and distress, six grains of the hydrochlorate of morphine, and on the 2d, five grains were exhibited, in addition to the regular doses, through the day. On the 7th of December fifteen grains of powdered opium were given in the forenoon, and the same quantity was repeated at bedtime. Under this treatment she rapidly improved ; but the same dose (fifteen grains of opium) was continued twice a day till the 14th of February, when she took half a drachm of the tincture of opium three times a day, in combination with hydrochloric acid. The patient recovered.

Dr. Oliver also gives the doses taken at the time of his writing by fifteen individuals. Two women took each six grains of hydrochlorate of morphine three times a day ; of powdered opium, one man and one woman took each *fifteen* grains twice a day ; one man *ten* grains twice a day ; one man *fifteen* grains once a day ; one woman *ten* grains once a day ; two men *five* grains *twice* a day, and six men *five* grains once a day. Another patient was taking four grains of hydrochlorate of morphine, when, by mistake, three doses (this is *twelve* grains) were given as a night draught. She slept soundly and awoke with her reason comparatively undisturbed. Her convalescence dated from that period.

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ESSAYS, MONOGRAPHS, AND CASES.

*On Rheumatism of the Epithelial and Non-Epithelial Fibrous Tissues : Its Sequence to Scarlatina and other Exanthemata. On Rheumatic Gout, Chorea, &c., &c.** By H. P. DEWEES, M.D., New York.

The term "Rheumatism" is derived from a Greek word signifying "a fluxion, or catarrh." It is divided into acute and chronic, although a third form may be correctly added, viz : "the flying, or fugitive." The tissues affected are chiefly of the fibrous, or sero-fibrous class. But muscular structure itself may become the seat of the affection, from its component elementary fibrous structure.

The true disorder consists in a certain more or less altered condition of the blood, from its normal composition. This condition may arise from causes *apparently* most opposite, but which resolve themselves into one and the same action, namely : their power to change the constitution of the blood from its healthful state.

The bedside statements confirm this view. By some, the exciting cause of the attack is attributed to cold, or to "check of perspiration." By others, to waste of nervous force by long-continued

* Some of the views announced in this paper are so like those given in the article on Scarlatina, published in our pages, that our readers may suppose they were suggested by it. It is due to the author to state, that the present paper has been ready for publication three years.—[EDS. MONTHLY.

watching, to strains, or over-exertion, to being "out of order" for a long time, though not conscious of having been exposed to damp or cold, to the sudden suppression of a skin eruption, to indigestion after a debauch, and so on, till one would be led to believe that any imprudence might be followed by an attack of rheumatism.

In some families it is, apparently, as hereditary as the gout; whilst in the gouty it is not unfrequently a conjoined affection. But the gouty, from their mode of life, are more apt to superinduce rheumatism, than are the rheumatic to earn gout. Where the parents of the patient have been subject, one to gout and the other to rheumatism, a sort of hybrid attack may sometimes result, rendering diagnosis difficult, whilst relief can only be obtained by conjoining the remedial measures of each. This coalescence, however, is not always the case, as I have seen gout and rheumatism run their distinct course in separate attacks in the same person. Rheumatism may safely be termed a blood disease. This blood condition may arise from causes apparently very different, but which resolve themselves, in their final result, by producing alike morbid changes not only in the circulating fluids, but in the nutritive action of the tissues themselves. Nor does time, or any specific interval, form a necessary element in the anormal production. It may result suddenly, or may be the sequence of the gradual want of integrity in the healthful assimilative functions. The sudden cutaneous suppression (so prolific a cause generally), by which certain excretory elements are forced to remain in the blood, loading it with a specific poison, and resulting in the phenomena of rheumatism, may be represented in a like manner by the errors of any organ or organs, *by which a similar toxic condition of the blood may be induced*. Nor is it necessary, that the superficial excretory actions, or the internal assimilative organs themselves be impaired—both may work in their perfect normal rôle, yet from the supply, by diet, being improper or in excess, a state of blood similar in its impurities may be produced, with the exhibition of rheumatism or gout as its index. It is only thus that the various accounts as to the origin of the attack can be reconciled.

The acute rheumatism of children, in almost all cases, can be readily traced to improper exposure or to damp. The recession of so much highly animalized excretion as is constantly being thrown from their surfaces, loads the blood with excrementitious products, whilst the proper actions of the kidney, liver, &c., are interfered with; or congestions may be superinduced, which cannot but serve to usher in the disorder. The young are more liable to general rheumatism than are

the more advanced ; and heart disorder is more prone to ensue in them than in the latter. This, most probably, is owing to the higher condition of irritability of the cardiac tissues from the altered blood, *and from the fact of the exanthematous diseases, as scarlet fever, measles, &c., being of later occurrence*; leaving the great excretory organs in a more or less damaged state. The determination of the disease, both in the young and the more advanced, to become local or general, apart from the considerations just mentioned, is in strict accordance to the blood condition, and the resisting power of the part exposed. For example : two individuals of the same age may be subjected to similar atmospheric causes, yet the result may be, and generally is, different : one being attacked with rheumatism of a single part, whilst the other may be taken down not only with the local selection, as in the first, but with every joint in the body affected. Or he may escape the like local manifestation, and be attacked in the knees or feet, although these parts were not only well protected, but not exposed at the time to the impinging draught ; thereby clearly showing the relation of the blood condition to the disorder. In many cases, the selection for the rheumatic outbreak is in some part previously weakened, as by strain or fracture, or by local nervous loss. These cases, however, require great discernment, as local phlebitis or purulent deposit in or near a joint may, and has been frequently mistaken for true articular rheumatism, giving rise to the opinion of its terminating in suppuration, more often than it does. To these and other points I shall again refer in their proper order.

Although for the most part the attack of acute rheumatism is sudden, yet in some distinct warnings occasionally take place before a "first instalment" is paid in. These premonitions vary in different persons, according to the attack dating from exposure, or from its being kindled spontaneously by previous disorder of the blood, without any outward exciting cause of a recognizable kind. Disturbance of the digestive organs, attended by fitting pains through the joints or in the muscles—the sudden eruption on the skin of some herpetic or other disorder, attended with burning, itching, or aching, and its rapid evanescence—or, the drying up of any chronic discharge, the appearance of a singular sour-smelling perspiration whilst in bed during sleep—these, with other premonitions, serve as sufficient data of the impending evil, to those who have already suffered, or are remembered with dread at their subsequent appearance, by those who did not translate their bearing correctly. In others,

no such unpleasant "avant-couriers" announce the attack; but a peculiar nervous excitability, attended with moist skin, and a sensation of feeling better than usual, is recorded by the patient—the attack being generally attributed to check of perspiration on going into cold air from a warm room, although others who were in the same atmosphere did not feel over-heated.

Here the disease early manifests itself by the usual sweating, *but in advance of the pain*. This, however, soon invades the insteps, ankles, knees, or wrists, attended with more or less chilliness, hot flashes, and increased perspiration. The arteries throb quickly through the now swollen, mottled, hot, and shining parts, whilst the superficial veins leave their dark-blue traces through the sensitive skin. As the location is variable, so is the duration of the intolerable agony uncertain. One or both corresponding articulations may be attacked, alternately or simultaneously; or, shifting from ankle to knee, a running fire from joint to joint may be kept up, till apparently reinforcements of the disease arrive, and every joint be tensely invested by the relentless enemy. Voluntary motion now becomes impossible, or is effected under the greatest torture. Change of position by any aid is rendered agonizing, whilst the desire to move increases hourly; and the patient is worn out between the increasing sweats, which bring no relief to the severity of the pains, and the sleepless restlessness for change of posture, which adds no comfort. The pulse hammers on, increasing in rapidity and pain-bearing force through the disabled parts. Fever seems firmly established in every essential form, save the dripping skin, whose sour sweatings fail to moderate the heart's over-action; and that the after effects are unlike those which would be dreaded in other fevers, attended by so much apparent inflammation, and with local disorder of nutrition of such threatening aspect.

A respite is generally gained during the sun hours, but the night comes loaded with terror. Sleep is now broken from the startled slumberer, by spasmodic jerkings of the limbs; and the dread of their reëcurrence, robs the pain-snatched hours of their balmy gift. And thus passes night into day, pain into exhaustion, and labored conversation into incoherent wanderings, or delirium, more or less persistent during the weary night hours. The appetite is gone, whilst the thirst is unquenchable. The countenance, for a time flushed with dark purple blood, bearing evidence of the riot of the heart, and its over-loaded condition from the wasting tissues, becomes at length heavy, and pale-sodden, whilst the forehead drips with outstanding

perspiration, and the sclerotic tissues of the eyes become finely pencilled, and the mucus tears drain from the sticky and often shut lids.

From the seventh to the ninth day such is the course of acute rheumatism, when relief may come permanently, or by shifting the scene of action to other parts, with moderation in degree and duration of the pain; whilst the limb previously affected becomes less unpliant, although aching with an almost paralytic stiffness, as regards progression or action. The patient is a child once more, every motion is uncertain; he totters with his weight, and has as it were, to learn to grasp again. In some, at this period, gloomy inaction, or heart-desponding forebodings harass the tedious convalescence. In others, although the recovery seems certain, the hopes are found delusive, and they again become victims to a reëttack. Pain renews its seat, the clothes become drenched in the sour sweats, and the morrows are mortgaged in nights of agony. Nor is this relapse always to be dated from imprudence of motion, or of exposure, or of diet, which from the improving appetite, or greater constitutional demand of the patient, had been more generous. It may and frequently does result from many causes unconnected with motion, atmospheric change, or regimen. Amongst these may be mentioned in this place, renewed blood disorder, encroaching purulent disturbance, the impairment of an organ by a more or less rapid hindrance of action from effusion, or by partial degeneracy of normal structure, &c., &c. It is here that the skilful physician is required; not only to guard against present impending difficulties, but to restrain, if possible, the disposition to organic damage in the various organs; which, if allowed to proceed in their stealthy progress, may suddenly shorten life before its prime, or leave it as a dreary tenure to the joyless sufferer.

The prognosis, in many cases of rheumatism, depends upon the previous condition of the patient. Whether he has been more given to vegetable or animal diet, or to alcoholic drinks; also, as regards the state of the primary and secondary digestion,—if he has had syphilis, or been lately subjected to gonorrhœa,—whether the kidneys have been for a short or long time diseased or disordered, the origin dating from the exanthemata or not,—or if the heart has been affected. In females especially it is important to know whether they have been subject to hysteria, with or without convulsion, or if chorea has at any period of life been present, or if the patient has at any time been affected by Marsh malaria or intermittent,—whether extensive suppuration had been present, or chronic eruptions been repelled. These, and many other conditions, in connection with the

habits, occupation, and the history of the parents, have to be fully entered into, before a just opinion can be formed as regards the prognosis and rational treatment.

For no disease does there exist in general a more unsatisfactory selection, or a more discrepant account, as regards effective remedial measures, and this amongst medical as well as non-medical observers. The indisposition amongst many to regard rheumatism as a blood disorder, the real difficulty at times in making a satisfactory determination as regards the tissues affected, and the lithic or lactic acid excesses in the circulation, with an *apparent* natural skin excretion, or their non-elimination from the blood, with deficient cutaneous action,—these, and many other causes, together with the inaccuracy that will attend the diagnosis of even the most skilful, render at times, the treatment vague, unsteady, and in most cases purely empirical. For every one you meet has a remedy with a list of cures.

The remedial selection, therefore, often requires much acumen in distinguishing simple acute or true fibrous inflammatory rheumatism, from the affection upon which the various organs have engrafted their assisting vices ; as witnessed in some disguised states of Bright's disease, or after scarlet fever, or spinal derangement, local phlebitis, insidious tumor, long continued and unrecognized constipation, &c., &c.

As acute rheumatism does not necessarily resolve itself into chronic, so may it be said that the latter, as a general thing, starts its onward course of injury and disfigurement in a stealthy and insidious manner, without much painful inconvenience in the early steps. There is, as is well known, what might be termed chronic acute rheumatism ; that is, where the patient, after an acute attack, is never entirely free from aching pain or slowly-increasing disablement of the joints, till seized with another attack. But, as above remarked, chronic rheumatism, in most cases, begins stealthily. Antecedent impairment of health, at first scarcely noticeable ; fitful pains shooting here and there, stiffness of the back or in the joints, on rising suddenly from the sitting or lying posture ; *skin-aching more intolerable whilst warm in bed* ; deep, heavy, and weakening pains in the larger muscles, rendering sleep uncertain and uncomfortable ; frequent desire to urinate, *sometimes attended with more or less scalding*, and even with *mucopurulent urethral or vaginal discharge*, rendering a suspicion of, and at times mistaken for, gonorrhœal disorder,—the slow but increasing enlargements of the joints, unaccompanied with desquamation or *irregular* disfigurement, as in gout ; the general stiff-hinge movements,—these,

and many others, being the intelligence to the afflicted that the record of their assimilative imperfections, or their imprudence of all hygienic rules, is most ineffaceably written in their persons. The symmetrical disposition to disfigurement is peculiarly noticeable in chronic rheumatism, the distortion of one joint, or of its burse, being apt to be daguerreotyped in the corresponding part of the other side.

But chronic rheumatism may exist unwritten in joint or muscle, and even unsuspected by the practitioner and patient, the brunt of the disorder falling upon organs hidden to view during life, and whose altered organic condition, with the cause, is only revealed by the knife. For what is true in the diffused form of gout, is also true in chronic rheumatism. The patient may be tortured under the belief of an existing and incurable organic disease of an organ important to life ; whilst, in reality, it is only laboring under the insidious functional poisoning of unrecognized rheumatic infection. It has been my frequent opportunity, to see both the young and the old treated for organic cardiac disease, attended with disturbance of action, and all the *bruits* that play their Æolian strains over the strings of the heart, when, by addressing the treatment to the rheumatic condition of the blood, relief has been gained in a satisfactory, and in many instances, in an almost magical manner. And the same may be said of the apparent heart-disease in the gouty,—colchicum and hydriodate of potash being their best friends.

In what may be properly termed chronic acute rheumatism—that is, in persons subject to frequent attacks of the acute form with slow recuperation—the heart is liable to become affected in about thirty in one hundred cases, and this, especially in children, from seven to fifteen years of age. In the plurality of these cases, the *previous exanthemata, as scarlatina or measles, most likely laid the foundation*, or were associated in the rheumatic attack. For the valvular lesions so frequently attending rheumatism, are not uncommonly preceded by kidney derangements, which date their origin from causes as above mentioned. It therefore becomes needful, whilst seeking into the existence and date of an hypertrophied ventricle, (which, of itself, is so frequently conjoined with disease of the aortic valves, or if dilatation exist, with adhesion to the pericardium,) to enquire if the exanthemata had at any time been suffered from. For it is undeniable that kidney disease, from whatever cause, frequently exists with altered muscular structure of the heart and a high irritability in its serous lining membrane. This state is more frequently found in

females than in males, and thus in part, may account for the greater prevalence of choreic disease in them.

As regards selection, the left side of the heart, from its greater tendinous structure, is more subject to rheumatic inflammation than the right. From the considerations above-mentioned of the liability of the heart to previous damage from kidney derangement, the fact of rheumatic pericarditis being less frequent than valvular inflammation, may be accounted for. In many cases of rheumatic pericarditis, the lining membrane of the heart is found more or less involved, and pleurisy by extension may result. Where extensive kidney disorder has existed previously, suppurative or purulent inflammation may, and frequently does ensue, whilst the uræmic symptoms are prominent; and *this, especially, if the patient has been lately subjected to the scarlatinal poison.*

Indeed, pleurisy unconnected with pericarditis, is rare in rheumatism, and in some cases, apparently, will be proportioned to the amount of urea, remaining uneliminated from the blood. The pleuritic effusions sometimes are so great as to displace the lower organs, and especially the liver; leading, on hasty examination of the abdomen, to the belief of enlargement of that organ, or of tumor, as has been witnessed by me on post-mortem inspection, where the serous or sero-purulent collection in the left side was so extensive, as to cause a large bag to descend low down towards the crista of the ileum; rendering, during life, all diagnosis unsatisfactory and obscure. Where the effusion is on the right side in excessive quantity, and accompanied with ascites, the liver may be floated, as it were, and pushed far over into the left side, giving rise, also, to the supposition of a tumor existing there.

Hypertrophy of the left ventricle is a most common sequence, or associate, of disease of the kidneys; and in these cases is frequently independent of valvular disorder, whilst apoplexy forms one of the modes of death. Where rheumatism attacks an individual, who previously may have been laboring under hypertrophy of the heart, the prognosis is of course more unfavorable as regards the ultimate result; as the vessels of the brain are apt to become diseased or degenerated in this condition of the heart. If disorganization of the kidney coëxist, the danger to the patient is also increased; as the hypertrophic state of the heart has a double association. What exact proportion in these cases have been affected by scarlatina, I do not know, but it appears to me that the number is in greater ratio.

The peculiar irritable manner and appearance in the patient at first,

but changing to a dull yet anxious expression, in rheumatism with previously disorganized or impaired kidney, is to be accounted for, by the gradual poisoning of the brain and great organic centres, from the retention of urea and other excrementitious matter in the blood. This condition may be partially relieved by the occurrence of effusions ; but only for a time, as resorption, fresh accumulation, and functional impediment by dropsical extent, ensue, whilst convulsion, or coma, ends the scene.

The absorption of urea is by no means to be measured by the drowsiness of the patient ; in some it acts as an *excitant*, producing sleeplessness or vivid fancies, as is not unfrequently witnessed after opiates. Indeed, I have seen the utmost watchfulness persist ; sleep or coma, only ensuing just before death. It is the object of this paper to more than call the attention of the profession, to the fact of the frequency of rheumatism after scarlatina, or other exanthamata, and to the extreme liability of the eptelial serous linings of the various parts of the body, to become the seat of the disorder, after the kidneys have been disturbed, or diseased in their epithelial structure. Hence, the frequency of sero-fibrous rheumatism after scarlatina ; and where no kidney disorder exists, the *preference of this rheumatic affection to the pure fibrous structures*. In the former, purulent effusions are apt to take place, whilst in the latter they are very rarely witnessed, though the swelling, &c., is greater.

The student should carefully divest himself of the too prevalent idea of metastasis in rheumatism, gout, and other diseases not strictly confined in certain regional bounds. The endeavor should be to classify anatomically, the tissues endowed with the *same organic elements*, and having alike functions. By so doing, *identity of structure* with their liability to functional error will usurp the vague idea of the so-called metastasis ; and the disturbances of other organs, will resolve themselves into their own legitimate actions and reäctions. It is also important to weigh the *mechanical association*, or situation of parts involved, and their disturbing influences. For instance, pericarditis with adhesion, although highly interfering, still will allow the function of the heart to be carried on better than in endo-carditis with valvular narrowing of the orifices, or where the natural elasticity of the inner mechanism is hampered by thickening, or by restraining adhesions ; or, by roughening vegetations opposing an obstacle to the uniform current of the blood, &c., &c.

The various compounds remaining in the blood from deranged elective balance, may act as other poisons do when introduced from with-

out. These toxical influences may become directly injurious, by completely paralyzing the functions of an single organ, highly essential to life ; or they may, by inducing a gradual degeneracy of all the nutritive centres, so leaven the whole circulating mass, as to render every structure more or less attainted in their vital uses. Nor are these effects subjected to any regularity, as regards their exhibition. In one, *paralysis of motion* may ensue—whilst in another, disorder of any special sense may result ; and *blindness*, *deafness*, or *insanity*, be the product, leading, too generally, to the belief of structural degeneration, rather than of functional derangement. This subject is full of the highest importance, and must ultimately form the platform of future improvement in the treatment of disease, before medicine can be safely called a science.

These blood poisons act by excess or deficiency of the normal ingredients—or by new combinations, not existing in the healthful state—or from the introduction of a specific poison, such as the syphilitic, cadaveric, &c., which have the power either to arrest the natural blood formations, or to impress upon them a new formative growth and self-life, not consonant with the normal organic constitution. Cancers seem to be an illustration of this. Each of these specific entities, or poisons, have a given type-life—in some, without the power of reproduction in the same individual (as witnessed in small-pox, measles, scarlatina, &c.), running through their periods of incubation, growth, and decline, in a regular manifestation of events. In other blood poisons no such self-limitation of development, nor after-inoculative exemption exists. A disposition to increase without limit, and to perpetuate their destructive changes in every tissue, forms a prominent feature in them ; as seen in syphilis and cancer. But these latter kinds are more amenable to early treatment, or to death by remedy ; or, in other words, to cure, than the former. It is, however, a curious fact, as regards the development of syphilis amongst the Northern Esquimaux, that even this poison, so frightful in its ravages amongst civilized and warmer-climed people, runs in them from the primary stage to complete eradication, in six months, *without treatment of any kind*. For this fact I am indebted to my distinguished friend Dr. Kane.*

A slight outline of some of the disorderly associates of rheumatism, and of those affections attended with pain apparently rheumatic, but dating their origin from other morbid conditions, may be proper here.

* This paper, it will be remembered, was written before the death of this noble man.

Rheumatism is not only frequently conjoined with scarlet fever, but is exceedingly prone to afflict persons who have been subjected to this disease, or to other of the exanthemata. From the views early mentioned, this might be suspected, since the kidney is also liable to suffer greatly in this fever. Where the renal derangement is early manifested, the pain in the joints is apt to make a corresponding appearance, and will frequently mask the attending scarlatinal affection, or cause it to be entirely overlooked if feebly developed ; the delirium, convulsions, or increasing coma that may attend, giving rise to the surmise of translation of the rheumatic action to the brain, or its coverings. In these cases of apparent rheumatic origin, it therefore becomes important to investigate closely into the exact condition of the child, as to its exposure to scarlatinal infection, or to the epidemic influence at the time prevailing.

The subsequent difficulty about restoration to general good health—the desquamations—the sudden chest difficulties, or dropsical effusions, ensuing shortly after, and even without incautious exposure, on the subsidence of arthritic pains—these many times serve to point out what has been overlooked. In none of the exanthemata is untimely exposure more severely witnessed than after scarlatina. Another fact is well worthy of consideration, viz: the albuminal persistence in the urine, together with tubular casts, epithelial deposits, &c. If this condition is found to exist in a case of sudden but ill-defined rheumatism—and more especially in children who have never been known to have had scarlatina, attention should at once be directed to the probability of the incurrance of this affection, and to the fact of the engagement of the kidneys.

The rheumatic symptoms generally do not exhibit themselves in the commencement. The scarlatinal disease may have been declared some time, even to the period of desquamation, before the joints are complained of. But whenever this may happen, and the kidneys are becoming more or less deranged, the danger is great, not only for the present but for the future ; since the effusions into the joints are at times amongst the lesser evils, the heart and brain being the special organs for anxiety. The effusions within the joint, although they may not be great, may eventuate in suppuration (as in purulent synovitis), producing more or less permanent alteration of structure and model, from mere thickening to articular caries.

In all cases of diseased joints in children, the strictest inquiry into the preceding disorders, and especially as to scarlatina, then becomes

of vital importance. As is found in the destruction of the aural bony-chain and surfaces, being confined mostly to one side, so, in the articular, is one joint, especially the knee, more frequently injured. Where the history of the case is imperfect or obscure, still, by the careful examination of the urine, even at a late date, much information can be gained ; as by it, we can often obtain a satisfactory diagnosis between the affection being the result of true fibrous rheumatism, to which it may have been attributed, or of the involvement of the articular fibro-serous membrane, with kidney derangement. This portion of the pathology of joint affections is worthy of serious consideration, and the prognosis must ever be uncertain without it. Most medical and surgical men can recall cases where the history of the affection, or the successful result of treatment, will prove the truth of these views. It is nothing new to attribute the abscessular conditions of the ear, or the ossicular caries, with sloughing of the tympanum, to the after effects of scarlatina. But the injuries to the joints, and other parts, have not met as ready observation, owing probably to the descriptive statements given of the pain, leading to the idea of simple rheumatism of the non-epithelial fibrous tissue.

Both old and young have been, and will be time and again, treated for apparent rheumatism, where the affection owed its origin to sub-fascial abscess, or impinging deposits of pus, either of local origin or from purulent absorptions. Scarlatina, typhus fever, local injuries, &c., may all produce this condition, and the errors of treatment may at times be pardonable, but in general are dependent upon ignorance or carelessness. In children, rheumatism more frequently terminates with suppuration than in adults ; and their more recent exposure to scarlatina readily accounts for this. But in the older, a diseased condition of the kidney, with epithelial-disintegration, frequently takes place. In these, rheumatism of the internal sero-fibrous membranes of the joints is prone to ensue, and pus may be generated. The results, then, are nearly the same, the difference being marked chiefly in the higher nutritive changes which take place in the young. In scarlatinal-rheumatism, the joints are not the only sufferers when the kidney has been damaged. Any parts having the fibro-serous element, may become the seat of derangement. Hence heart disease, pleurisy, arachnitis, with intracranial effusions, may result ; and the time of their demonstration will be variable. It may be shortly after the attack, or proceed so stealthily or slowly, that even adult age may be reached. For disease is not a running horse, to be timed exactly.

The modes of death in the child and in the adult are somewhat

different. In the child, the hypertrophic condition of the heart is less frequently attended with valvular disorder ; and the changes in the vessels of the brain, by which apoplexy, from rupture, is so often accomplished in the adult, rarely proceed to very great disorganization. But a fatal issue may speedily attend with convulsion and coma, from the higher impressibility of their nervous system. The arachnitis of the convexity of the brain is rapidly ushered in with alarming symptoms. The pain is intense, and the sleepless irritability attending from the first, alternates with delirium more or less marked, till convulsion or coma may close the scene. But the symptoms, when the base of the brain is affected, though less prominent, are more on that account, to be dreaded, from their insidious character. Pain is not much complained of, and the delirium, if any, is less profound ; but the coma is more sudden and quickly fatal.

In the adult, the hypertrophy of the left ventricle, (sometimes of the heart, independent of any valvular disorder,) accompanied by kidney disease, gives rise to, or at least is often associated with, alteration of the vessels of the brain, extending to more or less profound degeneration of their coats. Hence, apoplexy—sometimes sudden and fatal, as from the stroke of a hammer—is not an unfrequent consequence ; or softening of the brain may come on with rapid strides or stealthy step, rendering life uncertain, or held at expense of motion, or intelligence, according to the extent and its seat.

In the child, the pale, pasty skin, the fretful restlessness, or the listless inactivity, varying according to the greater or less power in the surface and kidney to deplete the blood—the errors of motion, or perception, or of any special sense ; these, and many other indications, should always attract to the threatening condition. That much permanent benefit can be obtained by any treatment, where organic changes have proceeded so far, is not always to be expected ; but it will be satisfactory to know, that the state of the patient had been noticed, and that death did not claim its victim before any rational measures for the prolongation of life, or mitigation of suffering had been entered into.

The choreic disturbances in children (and especially if they have been subjected to scarlatinal infection), dating their origin more or less closely after an attack of rheumatism, are well worthy of notice. In many cases the chorea is the first symptom attracting notice to the condition of the heart. Where rheumatic inflammation has been

seated in the lining membrane, St. Vitus's dance has been so frequently a sequence, that it is, by many, viewed in the relation of cause and effect. And this opinion, in many cases, seems verified. As above observed, the muscular irregularities sometimes cause the detection of the heart's injury for the first time. The interval between the occurrence of the rheumatic disturbance and the chorea is irregular ; whilst the prognosis as to the subsidence of the choreic motions from heart complications, depends on the power of arresting the damage, and the capability of improving the general nutritive system. If the latter can be accomplished, the *remodeling* as it were, of the heart, keeps pace with the progress of growth in the patient. At times, however, the heart is so slightly disturbed as not to indicate any appreciable organic difficulty, although sufficient irritability is established to reflect upon the spinal nerves the disturbances of relation. It is in these latter cases that the metallic tonics, such as arsenic, zinc, oxide of silver, act so rapidly in cure. But in the graver cases, where the heart is more seriously affected, time forms one of the chief elements, by allowing the reproductive changes to ensue with the growth. In these cases is witnessed the reason of the insignificance of remedies which had proved so beneficial in others. Independent of any heart or kidney disease, the errors in the composition of the blood after rheumatism, or any other blood disorder, may act as frequent causes of disturbances of innervation. Hence stimulant tonic, or sedative treatment, may be called for : in one the reproductive actions being below par ; whilst in the other, *a want of relation between the blood and the assimilative power of the tissues themselves may be at fault*. A third cause, apparently, may be independent of any blood relation, and exist in the nervous centres, or the nerves themselves. In this way the proneness of chorea to be a one-sided disease may be accounted for.

The tendency to rheumatic complaints in a family where scarlatina has been *irregularly developed*, sometimes affords a clue both as to the nature of the attack and its relief. For is it not uncommon to find one child subject to rheumatism, and another having chorea without any apparent rheumatic affection. In these, fright, which in general is a highly productive agent, acts readily and violently. After twelve or fourteen years of age, private abuse, through the reflex actions of the spermatic branches over the heart and the nervous masses at the base of the brain, may produce alike disturbances. The bellows sound of the heart and in the great arteries in these cases resemble, in a measure, the bruits from more serious organic

difficulty. Fright is more commonly an excitor in the rheumatic or debilitated, than in sound and robust children. The development of the attack is also more immediate after fright, than after rheumatic disorder. Where the urine is of high specific gravity, depositing lithates or oxalates, and overcharged with urea, and the patient does not become correspondingly weak and emaciated, the error lies chiefly in the diet being in excess to the assimilative powers. The blood here represents the conditions favorable to acute rheumatism; and if previous kidney derangements had been engrafted from exanthematous disease or other cause, an attack is apt to follow. But if the individual be free from any renal difficulty, the rheumatic attack may not be fully generated, but disturbances of nutrition or in the assimilative balances may ensue, with chorea as a result.

Stammering in children, may sometimes be traced to the same causes and yield to proper treatment. As in chorea, fright, or other emotional excitement, has also been a prolific agent in this affection. Indeed, stammering might be called a chorea of the tongue and larynx. Almost every practitioner, and layman, can recall cases of early impediment, which subsided gradually with the increasing growth and strength of the person.

Excepting in those cases of sudden and continued violent chorea, where the nervous exhaustion is so great as to defy timely repair, the prognosis, for the most part, is favorable; and even in choreic paralysis, a happy termination may be safely anticipated, if the kidneys regain their normal actions.

It is not difficult to understand, when the conditions of the blood or of the heart and kidneys in rheumatism are known, that dropsy may be a sequence—its severity dating from its degree, time, and place. Nor would it be, as it often is, a matter of surprise to the relatives of the patient, who have wondered at the apparent *over-*attention of the skilled practitioner. were his anxieties as to the issue of the case known, as long as the purring sounds of the heart and the cellular puffiness about the eyes, and the epithelial and albuminous deposits continue.

Diffused gout is sometimes mistaken for rheumatism; the liability to cardiac pains, palpitation, &c., adds to the belief. But the history of the patient, his mode of living and appearance, the family diathesis, and the success that may have attended the previous administration of remedies, serves to clear away any difficulty in the diagnosis.

As instances of rheumatic origin may be mentioned, the sudden

attack of lumbago, pleurodynia, crick, stitch in the intercostals, the muscular aching whilst at rest or after getting warm in bed, or the dull heavy pains, attended with a sense of coldness in the part, &c. Yet it may be well to mention that all these may be the result of long-continued constipation, and will frequently take their flight after a brisk purge.

There is a painful affection of the skin, termed *dermalgia*, that I will refer to. This affection, so afflicting to the patient at times, is by no means unfrequent. It is a somewhat common companion of hysteria; and from this fact, I have been led to regard some of the forms of this protean malady, as offshoots of rheumatism, or at least as indicating a rheumatic tendency in the blood. In many cases I have detected epithelial deposits, tubular casts, &c. From much opportunity in witnessing uterine disease, the frequent connection of hysteria with painful menstruation, has satisfied me that rheumatism plays an important part in it, as it also does in many cases of dysmenorrhœa unattended with hysteric phenomena. In apparent spinal disorder, this painful tenderness in the skin is a common attendant, and sometimes exists to such an extent over the processes, as to lead the unwary examiner into the belief of severe local injury. By pinching up the skin, and then making the same amount of downward pressure, this suspicion can be frequently dispelled, as the pain will be found much lessened, or at least not increased. The same condition exists also in certain gouty individuals, the increasing tenderness in the skin being many times a forerunner of an acute attack.

I cannot refrain from attracting attention, in this place, to a painful condition of the surface in children, the slightest touch being complained of. It is frequently the forerunner of severe if not fatal convulsions, and evidences great functional or organic derangement of the nervous centres. When noticed, no time should be lost in making such applications to the spine, and base of the brain as may be demanded. If fortunate enough to be attracted early to this symptom of superficial pain, the convulsions may be rendered lighter, and of less duration. But unfortunately this condition sometimes remains unnoticed, or has made such progress when noticed, that the exhaustion from the convulsions is so profound, that organic repair and nervous recuperation do not ensue; and the child dies, either after a succession of rapid convulsive efforts, or becomes comatose, and sinks without a sign into its last sleep. These cases I have seen, especially after scarlatinal kidney disorder—in some an

interval of comparative health had supervened, but after a time an icterode hue assumed the place of the natural complexion, with a certain puffy appearance leading the parents or a common observer to think indicative of increasing flesh. If the kidney had been damaged, the violence of the convulsions by their continued succession, acts in a doubly dangerous manner—in the first, by the exhaustion, and in the second by the *extra amount of animalized matter* that is thrown into the circulation, and which cannot be voided by the natural emulgent channel of the kidneys. As in chorea, where the muscular movements are excessive, the sulphates as well as urea will be found in excess in the urine, evidencing the rapid waste of muscular structure, by the inordinate movements during convulsions.

(be Continued.)

On the Use of Veratrum Viride in Puerperal Fever. Report of a case in the service of Prof. BARKER, at Bellevue Hospital. By REUBEN COBB, M.D., House Physician.

Kate Short, aged 23 years, fell in labor in full term at 2 o'clock P. M., February 25th, and was delivered of a healthy child at 8½ o'clock on the morning of the 26th. Nothing unusual occurred in her labor, except that the second stage was somewhat prolonged. Placenta came away in due time, and was not followed by hæmorrhage. First pregnancy.

February 28th, at 8 A. M., she was seized with a very severe chill, followed by increased frequency of pulse, and pain over hypogastric region, extending as high up as the umbilicus. This pain was very much increased by taking a full inspiration, or by the application of pressure. Tympanitis very considerable. Discharge abundant and very offensive. Pulse 140. Respirations twenty-four.

At 1 o'clock P. M. Dr. Barker saw her, and recommended that she should be transferred to the Fever Wards, and put on the use of the Tinctura Veratri Viridis.

At 2 o'clock P. M., after having been removed to the Fever Wards, her pulse was 140. Respirations 24. Pain over hypogastric region intense. Tympanitis very considerable. Discharge abundant and very offensive. No mammary secretion. Dr. Barker

requested that she should be seen hourly by one of the House Staff, and that her condition, as to the state of the pulse, respiration, and other symptoms, and the dose of the veratrum viride given, should be recorded at each visit. The following is the record thus kept :

<i>February 28th.</i>	<i>Hour.</i>	<i>Pulse.</i>	<i>Resp.</i>	<i>Drops.</i>	
	2 P.M.	140	24	10	
	3	127	22	10	
	5	140	22	10	
	6	132	12	10	
	7	120	20	10	
	8	80	20	9	Bowels moved once.
	9	75	16		Vomited a greenish colored fluid. Bowels loose.
	10	66	16	4	Vomiting ceased. Bowels moved once.
	11	65	22	7	
	12	58	13	2	
<i>March 1st.</i>	1 A.M.	64	52	6	Respiration very irregular. Inclined to sleep.
	2	58	25	2	Sleeping.
	3	59	21		Hiccough and headache.
	4	60	18	1	Hiccough still continues.
	5	66	20		Severe headache. Vomited a greenish colored fluid.
	6	66	21		Headache severe, and very restless. Vomited several times within last hour. Hiccough.
	7	58	20		Vomited once since last visit. Vertigo and headache.
	8	52	28		Sleeping.
	9	60	19		
	10	68	21	1	Slight hiccough.
	11	70	23	2	
	12	80	28	3	Tenderness over abdomen, marked. Tympanitis somewhat diminished. Discharge dark, bloody, and very offensive.
	1 P.M.	80	20	4	Visit of Prof. Barker.
	2	92	24	8	
	3	76	24	8	Face flushed.
	4	76	28	9	Sleeping.
	5	68	28	8	Sleeping.
	6	66	28	8	
	7	68	26	6	Slight hiccough. Bowels moved once.
	8	66	18		Vomited a greenish colored fluid.
	9	68	24		Vomited once since last visit.
	10	60	28		Sleeping.
	11	64	28		Still sleeping.
	12	66	28	2	Sleeping still.
<i>March 2d.</i>	1 A.M.	56	32		
	2	70	24	3	Complains of pain in left thigh. There is slight swelling, and along its internal surface, over the course of the veins and lymphatics, the tenderness is so great that she can scarcely bear the lightest touch. Tenderness over abdomen still continues. Slight Tympanitis. Discharge abundant, dark, bloody, and very offensive. No mammary secretion.
	3	76	24	4	
	4	65	20	3	Sleeping.
	5	78	22	8	
	6	68	22	4	
	8	64	24	4	
	9	72	24	6	
	10	64	28	2	Bowels moved once.
	11	72	28	6	
	12	70	24	5	
	1 P.M.	64	24	3	
	2	60	20		
	3	64	24		
	6	68	28	3	
	7	72	28	5	
	9	80	28	6	Face flushed.
	10	80	26	6	
	11	80	28	8	
	12	80	28	10	Sleeping.
<i>March 3d.</i>	1 A.M.	80	29		Vaginal discharge now ceases to be offensive. No mammary secretion. Tympanitis still remains. Tenderness over abdomen still continues, though not so well marked. Tenderness and swelling in left thigh still continues.
	2	78	23	10	
	3	80	28	8	Slight hiccough.
	4	72	20	4	
	5	68	28		Vomited a greenish colored fluid. Headache. Hiccough. Bowels moved twice.
	6	64	24		
	8	60	24		
	10	68	24	5	
	11	70	24	3	
	12	76	28	6	

	Hour.	Pulse.	Resp.	Drops.	
	1 P.M.	80	28	6	
	2	80	22	8	
	3	76	30	4	
	4	76	26	5	
	5	72	32	4	Sleeping.
	7	64	32	2	
	8	72	28	5	
	9	68	30	4	
	10	68	28	3	
	11	72	28	5	
	12	70	30	7	Sleeping.
March 4th.	1 A.M.	72	32	8	Tenderness over abdomen not so intense. Slight tympanitis. Vaginal discharge now appears to be natural. Tenderness and swelling on internal surface of left thigh now seems to be diminishing. No mammary secretion.
	2	70	30		
	3	64	28	2	
	4	64	28	3	
	5	60	24	2	
	6	60	28	2	
	7	60	28	2	Bowels moved twice.
	8	58	28		
	9	60	28		
	10	56	28	2	
	11	64	32	3	
	12	72	24	4	
	1 P.M.	78	32	6	
	2	80	28	8	
	3	80	24	8	
	4	80	30	8	
	5	80	28	8	Sleeping.
	6	60	32		
	7	64	24	6	
	8	60	24	2	
	9	60	28	2	
	10	60	24	2	
	11	60	26		
	12	58	24		
March 5th.	1 A.M.	60	22	3	She now says she feels much better. Her countenance looks much brighter, and she appears to be much improved in every respect. The tenderness which has been so intense over the abdomen, now is scarcely noticeable. Tympanitis very slight. Discharge very scanty, but normal. No mammary secretion. The swelling and tenderness on the internal surface of the thigh, in the course of the veins and lymphatics, has now disappeared altogether.
	2	68	26	4	Sleeping.
	3	60	22	2	
	4				
	5				
	6	70	30	6	
	7	64	24	4	
	8	76	24	6	
	9	76	24	6	
	10	72	28	6	
	11	64	24	3	
	12	68	24	6	
	1 P.M.	64	28	5	
	2				
	3	56	28		
	4				
	5	64	24	5	
	6				
	7				
	8	68	26	4	
	9				
March 6th.	8 A.M.	72	24	4	Feels well; improvement marked. No tenderness on pressure over abdomen. No tympanitis. Discharge still scanty, but normal. Slight mammary secretion.
		70	24	6	
	11	76	24	4	
	12				
	1 P.M.	72	24		
	5	78	28	8	
	6				
	7	76	28		
	8				
	9				
March 7th.	10	72	24	4	
	9 A.M.	76	24		She says she feels well and hearty. No tenderness over abdomen. No tympanitis. Vaginal discharge healthy. No tenderness or swelling in left femoral region. Appetite good. Bowels regular. Continues to improve very fast.
March 8th.	10 A.M.	76	24		

From this time she continued to improve, and in a short time was discharged as well and hearty as she ever was.

Puerperal Mania—Has it any connection with Toxæmia? By J. FOSTER JENKINS, M.D., Yonkers, N. Y.

CASE. Mrs. —, a native of England, aged 27 years, was delivered of her first child May 11th, 1857, 270 days from termination of last menstrual period. The child, a male, was symmetrically developed, and weighed 7 pounds. The previous health of Mrs. — had been good, and her condition through the whole period of gestation was such as gave promise of its favorable termination. There is a supposed tendency to insanity in the family of Mrs. —, two uncles having been thus afflicted. A few hours previous to the commencement of labor, great mental excitement was induced by family anxieties. Labor was prolonged twenty-six hours, during the last six of which chloroform was administered to the extent of nearly six fluid ounces.

The labor terminating near midnight, I left the lying-in room at 1 A. M. on the 12th inst. There had been but little hæmorrhage.

6 A. M. Had not slept. Seemed in all respects comfortable. During the day a good deal of company was unwisely admitted to the room, and at evening, finding that no sleep had been gained, I ordered Morph. Sulph. gr. $\frac{1}{5}$, which was repeated at intervals through the night, but without inducing sleep.

On the 13th the dose of morphine was doubled, and an hour or two of sleep during the day was reported by the nurse.

14th. No sleep the previous night, owing to the injudicious management of the sick room, as was supposed. Mrs. — was somewhat hysterical. Bowels were moved by Ol. Ricini. The pulse thus far had been soft, varying from 90 to 110.

On the 15th great nervous excitement was developed, ending in decidedly pronounced mania. There was no pain of the head or abdomen, and no meteorism.

Morphine did not produce sleep. Pulse 100. Tongue dry. Urine scanty and dark colored. The babe was separated from its mother and fed by hand.

16th. At 6 A. M. ordered milk punch, the dryness of the tongue continuing, but through neglect it was not given until 10 o'clock, soon after which it was reported by the attendants to have greatly quieted the delirium. At 11 A. M. Dr. Alonzo Clark, of New York, visited Mrs. — as consultant. Condition unaltered. Uræmic poisoning was suggested by Dr. Clark as the probable cause of the disordered condition. The test of the urine by heat, showed albumen abundantly present.

The treatment proposed, in view of this pathological condition, embraced free catharsis daily, the establishment of diaphoresis, with dry cups, or counter irritation over the kidneys; nourishment by animal juices and stimulants; and after evacuation of the bowels, opium to compel sleep. Before the consultation had closed, Mrs. — spontaneously fell asleep, and slept an hour and a quarter. On awaking no improvement of condition was visible. Administered fl3ij of the following mixture :

R.	Fl. Ext. Sennæ.		
	Fl. Ext. Rhei	-	aa 3vi
	Tr. Jalapæ	-	3ss
M.			

This was repeated at 5 P. M. and at 9 P. M.

Cups being inapplicable, on account of unruliness of the patient, a bread poultice, spread with mustard, was applied over the renal region. On the evening of this day, the lochial flow ceased.

17th. Had been very violent during the night, making frequent attempts to get out of bed, and once or twice overcoming the resistance of her attendants. From 1 A. M. had taken the cathartic mixture in fl3ss doses, each four hours. No evacuation. Pulse 106, soft. Tongue dry. Took punch and beef tea readily. Urine loaded with albumen as yesterday. Profuse perspiration was induced by a foot-bath. At 12 M. put a drop of Ol. Tiglii on her tongue, which was followed by five stools before evening. Delirium persistent through the day, though accompanied by less violence. Gave $\frac{3}{8}$ gr. of Morph. Sulph. at 9 P. M., and again at 11 P. M., which last was followed by two hours' sleep. A second nap of two and a half hours followed the third dose, and a third ensued without additional anodyne, making the amount of sleep between 11 P. M. on the 17th, and 9 A. M. of the 18th, not less than six and a half hours.

18th, 9 A. M. Patient still markedly insane, though less violent. Tongue and pulse as the day before. The urine was albuminous, though the deposit obtained was not quite so great as on the two preceding days. The warm foot-bath was twice administered, inducing free perspiration. The cathartic mixture above noted was given through the day, but without producing any evacuation. Patient took beef tea and milk punch. At night resisted morphine and slept poorly.

19th. Mrs. — appeared more quiet. Had lucid intervals, but lapsed often into incoherency. Pulse soft and frequent. Urine less albuminous. Tongue less dry. The bowels continuing unmoved,

administered Ol. Tiglii gtt. i. in pill. Three evacuations followed, and profuse diaphoresis was obtained by employment of the foot-bath. The babe was reëplied to the breast, and seemed to be sufficiently fed.

20th. Had slept four hours at night, by aid of anodyne. Was more rational through the day, though there was a tinge of peculiarity in much that she said. Albumen decidedly less. Tongue moist. She seemed to be aware of all her past hallucinations, to recall what she had said, and to be aware of its absurdity, but she was not encouraged to refer to the subject.

21st. Was apparently of sound mind. Tongue moist. Pulse 100. No albumen in urine. Secretion of milk abundant. Lochial discharge reëstablished. Slept six hours the night previous. Continued sane through the day.

Successive examinations afterwards detected no albumen in the urine. Convalescence has proceeded without the occurrence of other grave symptoms. Mrs. — has, however, gained strength but slowly.

On the 24th slept at night for the first time without an anodyne, which, since the 21st, had been administered in diminished doses. Sat up for forty-five minutes, for the first time, on the 27th. Has been able to suckle her child satisfactorily. Lochia again ceased on the 23d.

Present condition, May 29th. Strength and appetite slowly improving. Mind seems to wander occasionally on waking, but no aberration of intellect is noticed at other times. The pulse, for twenty-four hours past, has not varied much from 120. Bowels open daily, without medicine.

From the termination of the record as above given, Mrs. —'s convalescence was progressive, delayed only by an intercurrent articular inflammation, of which the rapid pulse on the last day of the record was symptomatic. A letter from her, written in September, after her return to England, announced a continuance of the firm health in which she passed from under my observation, on the 19th of August.

The treatment of Mrs. — was based on the assumption of a toxæmic cause of her mania, and the result of the depurative processes was, that, *pari passu*, with the diminution of albumen in the urine, a subsidence of nervous excitement was manifest, until, on the fifth day after their adoption, the urine was free from albumen, and, coincidentally, the mind unclouded.

Dr. A. Clark has informed me of two patients, in one of whom mania was developed after delivery, and in whose urine albumen was abundantly found. The albumen disappeared after a depurative treatment, and with it the mania. In the other patient mania was manifest towards the end of gestation. The urine was albuminous. It became normal in character under treatment, and the mania disappeared, but the patient passed from under observation before her delivery.

Do the facts in our possession justify the opinion that the form of acute mania, which occurs within the puerperal month, is sometimes attributable to a toxæmic condition of the blood? I do not mean its pyæmic infection, as in cases of uterine phlebitis. The features of the hysteroidal intoxication of patients so affected, are distinctly drawn by Prof. Meigs, in his volume on *Child-bed Fevers* (Letter X.). They are almost always accompanied, or have been preceded by other indications of some abdominal phlegmasia. But cases like that of Mrs. — show no such indications. May not an impure condition of the blood, in puerperal women, be one cause of mania, as it is well known to be of convulsions in the same class? To a larger number of observations than we at present possess, must we look for a definite answer to this question. Should such observations as this inquiry invites, determine the fact that a morbid state of the blood, whether depending on an excess of urea, on caseine,* or on some unascertained poison, does sometimes induce mania in puerperal women, we may understand better than we can now the remark of Gooch, "The cause of puerperal mania is *that peculiar state* of the sexual system which occurs after delivery."

NOTE. Supposing a poisonous condition of the blood before delivery in the case of Mrs. —, as evinced afterwards, may not the absence of convulsions during labor be due to the free administration of chloroform, subduing spinal irritability, as suggested by Dr. Simpson? *Edinburgh Monthly Journal of Science*, September, 1848, p. 197, and *Obstetric Memoirs and Contributions*, first series, American edition, p. 735.

OCTOBER 15, 1857.

* See article on Puerperal Convulsions, by Dr. J. T. Simpson, *Edinburgh Monthly Journal of Medical Science*, October, 1847, p. 288, and *Obstetric Memoirs and Contributions*, first series, American edition, p. 734.

On Scarlatina : A Clinical Lecture delivered at Hotel Dieu, Paris. By M. TROUSSEAU. Reported by Dr. Leon Blondeau. Translated from the *Gazette Hebdomadaire*, for the MONTHLY. (Concluded from page 242.)

We have now come to a more difficult part of the question—to the consideration of that which I have called *latent* (fruste) *scarlatina*.

You know what is meant in archæology by a latent (fruste) inscription ; that a greater or less part of it is wanting, a line, a letter, a point even only remaining. In speaking of pneumonia, we have seen that that disease could be latent, that often there was only a word in the symptomatological phrase, and that from this word alone the physician should find out the whole phrase. It is with the physician as with the numismatist and archæologist. At the commencement of their studies these have to read from well-preserved medals, from stones intact, while the student of medicine requires that all the symptoms which usually characterize a disease should be found in a case which falls under his observation. After a while, however, the archæologist only requires a word, a letter, to be enabled to decipher the effaced inscription. So it is with the more experienced physician ; he divines from a single symptom of a disease the whole disease. Of all the latent diseases, scarlatina presents these *desiderata* the oftenest.

In 1829, one of my friends told me that scarlatina prevailed in a little village near Mennecey, in the department of Seine-et-Oise, and principally in the communes of the chateau de Villeroy. Wishing to study this epidemic, I could do it more easily from the fact that as the chateau was perfectly isolated, the evolutions of the disease could be easily followed.

I saw individuals of the same family affected with sore throat, without eruption, and although they remained in the midst of those who were afterwards attacked with scarlatina, these persons escaped. Their sore throat was violent, accompanied with high fever, redness, and desquamation of the tongue. Others, who were attacked lightly, being slightly unwell for eight or ten days, suddenly became swollen, and passed blood. Albuminuria was not known at that period. These facts struck me, and caused me to think that these persons having, some of them the eruption and the consecutive anasarca, others the anasarca or sore throat only, were differently attacked, but that all had the symptoms of scarlatina.

Three years since, at Meaux, an analogous fact came under my observation, occurring in the same house. A young girl, fourteen

years old, was taken with a violent scarlatina, characterized by croupal angina, the eruption, and an intense fever. A few days afterwards, her sister was also taken sick with the same symptoms ; almost at the same time a chambermaid fell sick ; two or three days after, a man-servant, who staid in the room the whole day, was affected with a severe sore throat, with croupal exudations on the tonsils, redness and exfoliation of the tongue, high fever, but without cutaneous eruption. It was clear to me, as the physician of the family, M. Saint Armand, also thought, that all these patients had scarlatina, and in fact the man-servant, although remaining in the midst of the epidemic locality, did not take the disease with which he had been inoculated in the same degree as the rest of the family ; while the scarlatinous phase was complete in the others, in him the inscription was latent (*fruste*). There still remained a young boy, six years old. Suddenly, without having been sick a single instant, he became swollen. M. Blache and myself were called in consultation, and we recognized the anasarca of scarlatina presenting itself at the outset ; it was considerable, and accompanied with hæmaturia. The father and mother, who were very attentive to the health of their son, declared that in the morning he had breakfasted as usual. This child had neither fever nor eruption, and the disease manifested itself in time, by the single symptom which we have indicated. Eight days afterwards he had a double pleurisy, and came near dying. Called again in consultation, M. Blache and I recognized this affection ; four days after, we found one of the sides of the chest cured, while the other had taken on an enormous development. We performed paracentesis of the chest, and drew off one pound and a half of pus. During two to three months, Dr. Saint Armand made iodine injections into the pleura ; notwithstanding a pulmonary perforation, the child recovered, and is now in good health.

I have not myself had any cases like these. Graves cites several, a few of which I shall translate for you.

“Young F—— was taken home from school when scarlatina prevailed. He complained of sore throat upon swallowing, headache, nausea. The next day the tonsils were swollen, and he experienced a greater difficulty in swallowing. His pulse was quick,—skin hot, but no traces of eruption. These symptoms continued three days without increasing in severity, and then disappeared. Before he entirely recovered his two sisters and his father were attacked. The eruption appeared upon the skin in his two sisters, and ended in desquamation, while in his father there were only a few red points upon his skin, without ulterior desquamation.”

“Master O—— also returned from school with scarlatina. During his sickness his two sisters and his brother were taken with the same disease. In all these it manifested itself under the form of small eruptions, or maculæ, upon the skin. At the same time the man-servant and maid-servant suffered from violent angina, with high fever, which lasted several days.”

These facts are identical with those I have myself seen. In the following, which occurred in the family of a physician, you will observe that the disease developed itself by anasarca :

“The following case,” says Graves, “was communicated to me by a very eminent practitioner of Dublin. A few years since scarlatina broke out in the family of this physician, and attacked all the children, with the exception of a young lady who, although taking care of her sisters during their sickness, had no symptom of it. When they were convalescing, the family was sent into the country for the sake of the change of air, the sister who had not been sick accompanying them. There, to their great astonishment, she was suddenly taken with that peculiar anasarca which is observed in those who have had scarlatina. Her father, who took care of her during this sickness, was struck with this singular fact : he paid particular attention to it, and became convinced that it was a latent scarlatina.”

“These cases, and those of which I have already spoken,” continues Graves, “are very interesting in a pathological point of view ; they tend to prove this fact, that, in many circumstances, diseases produced by contagion do not present the same series of symptoms which ordinarily characterize them.”

These extracts from the English author prove that the same things occur in Dublin as in Paris. It is very certain that you will see these latent scarlatinas ; you cannot, therefore, become too familiarly acquainted with them. Graves insists upon these facts as a means of demonstration, and he positively indicates that these are cases of scarlatina ; for, says he, the disease being essentially contagious, it would be impossible that those who only had the sore throat or the anasarca should be alone exempt in the midst of their family sick with scarlatina, which had attacked all the rest.

TREATMENT.—The eruptive diseases, whether the eruption takes place on the skin or upon the internal viscera, as is the case in putrid or typhoid fever, which is an eruptive disease of the digestive tube, the eruptive diseases have a fatal course ; that is to say, they have determined phenomena against which we cannot cope with success. In the treatment of these diseases, the physician should not forget this grand

fundamental fact: that whatever may be said, he cannot prevent the progress of a putrid fever, nor can he cut short a case of variola or rubeola. Doubtless, unskilful attention can retard or modify, in a certain manner, the appearance of the eruptions; but whatever means may be employed, art is powerless against the evolution of an exanthematous fever, whatever it may be. In these diseases, more than any other, the physician should be *minister naturæ et interpres*; for in these diseases, more than any other, *quicquid meditetur et faciat, si naturæ non obtemperat naturæ non imperat*; his duty, when everything progresses regularly, should be essentially passive, *otiosus crisiū spectator*, as Fizer said; if no severe symptom arises, he has only to fold his arms; in a few days the disease will have accomplished its evolution naturally.

When the eruptive fevers become in some particulars menacing, our intervention, let us avow it, is generally of little avail. In some circumstances, however, we can be useful. These fortunate circumstances in which art interferes efficaciously, are more frequently met with in scarlatina and rubeola than in variola and putrid fever.

I shall show you what the physician can do in the first of these diseases. Above all, it is well to recollect that scarlatina varies greatly in its form and severity; that sometimes it is of an extraordinary mildness, sometimes, on the contrary, its malignancy renders it a terrible disease, the equal of the plague and typhus. This should be taken into account, for success should not be attributed to the medication which he may have used, the honor of which belongs entirely to the benignity of the epidemic itself; nor should his failures be laid to the treatment which could not prevail against the essentially malignant nature of the disease.

Epidemics can be generally severe for a whole population; they can also be severe for a single family. The malignancy can be circumscribed, so to say, within a small compass; but in these cases, it is malignant for almost all those it attacks within the circle to which it is confined. In this connection I will recall to your recollection the sad fact, published lately in the English journals, of scarlatina carrying off, in one week, six or seven children of a clergyman of York.

It seems that the poison with which those attacked with scarlatina are infected, has a particular activity, or that the constitution of each of the patients is disposed in a special manner for receiving it. Whether the malignancy depends upon the nature of the disease, upon its epidemic character, as Sydenham and others say,—whether

it depends upon the particular constitution of the individuals, according to the opinion of Stoll, this grand fact always remains, namely : that when scarlatina breaks out in a family, with its terrible phenomena, destroying the first it attacks, it is well to mistrust and fear it, for it will probably take off other victims ; and also when its first severity has moderated,—when it appears from the start benign, it is well to hope, for generally it will remain benign.

This should be said before entering upon the study of the treatment, in order to put you upon your guard against yourselves. I cannot repeat it too often that, if the disease is in itself severe, the best medication will most frequently fail ; if it is in itself benign, recovery will most usually result, and the most inappropriate medication will not be injurious.

There is a point upon which all epidemiographers agree ; it is, that the *antiphlogistic treatment*, bleeding, too energetic purgatives, and rigorous diet, are pernicious. There is not, perhaps, an author,—I speak of those who have followed, studied, and described many successive epidemics,—who has not established the danger of this treatment in severe scarlatina, and even when, in the progress of this disease, acute inflammatory phenomena arise, such as phlegmons of the tonsils, of the lymphatic ganglions, of the cellular tissue, that bleeding and leeches do not generally succeed, probably because they are directed to symptoms of a septic disease,—of a disease of a bad character, *mali moris*,—one of those malignant diseases in which the antiphlogistic treatment is almost invariably injurious.

Still these epidemiographers, in giving the sad results of their experience,—in condemning the antiphlogistic means of which they have observed the bad results,—these epidemiographers teach you that, if the energetic purgatives are hurtful, the milder mercurials, the neutral salts, given in a proper proportion, are of real utility. They say that, under the influence of laxatives which produce two or three passages a day, the febrile movement will be most usually moderated. However, they are far from pretending that the disease is always cured by these means.

We have seen that, in scarlatina, and particularly when at its height, patients seem to succumb to a nervous exaltation, at least to nervous disturbances arising either in the centres of organic life, characterized by an extraordinary elevation of the temperature, vomiting, obstinate diarrhoea, or in the centres of animal life, manifested by delirium, coma vigil, subsultus tendinum, and convulsions. For these nervous symptoms there is a treatment, the value of which has

been proved by experience,—a treatment which the physician adopts, however, with great caution. I speak of the *cold affusions* extolled by Currie.

Currie was the first to recommend their use. He treated a large number of patients afflicted with the severe form of scarlatina, and had considerable success from the use of cold affusions. Emboldened by his fortunate results, he insisted upon this mode of treatment, and established its application as a general rule in scarlatina accompanied with severe nervous symptoms, such as delirium, convulsion, diarrhoea, excessive vomiting, and a high temperature of the skin.

How should this treatment be applied? The patient placed naked in an empty bath-tub, three or four pails of water, at a temperature of 20° centigrade (68° Fahrenheit) are thrown over his body. This affusion lasts from a quarter of a minute to a minute, at the longest. The patient is immediately enveloped in blankets, placed in bed without being wiped off, and properly covered; reaction generally follows in fifteen to twenty minutes. The affusions are repeated once or twice in the twenty-four hours, according to the severity of the symptoms. They should be administered at that moment when the nervous phenomena assume such an intensity as to excite our fears of imminent danger; they are to be repeated until these symptoms cease, relieving the mind of the physician from further cause of alarm.

To suggest in private practice a treatment apparently so bold, one would have to have grown old in practice, to be beyond the necessity of being sustained by public opinion. He should be fortified by a deep sense of duty—by a consciousness of doing well, in order to strive successfully against the popular prejudice,—of all prejudices perhaps the most unfortunate,—which demands that, in eruptive fevers, patients should have warm drinks and be wrapped in more coverings than they are accustomed to in health. There is no prejudice, we say, which is more unfortunate than this; there is none which more frequently occasions the death of the patient. Yet the voice of Sydenham, which has spoken for two hundred years,—the authority of the most distinguished physicians who still object to it, resist in vain.

You understand, then, the difficulties which the young physician will have to encounter who believes he should have recourse to these cold affusions. These difficulties are the greater because it is in the severe cases, where the scarlatina threatens to be fatal, that the indications of this treatment are found. In adopting this treatment,

you know that the disease gives one chance of recovery to two of death, and you can foresee, if you are not successful, what will be the opinion of the family afflicted with the loss they have sustained.

I have employed these affusions for a long time. I tried them in private practice before adopting them in hospital practice, for I have never made use of anything there which I had not previously tried in my private practice. As to these cold affusions, I can assure you that I have never used them without gaining some beneficial effect from them. I do not pretend to say that all my patients were cured. Far from it. I have lost a great many, but they died notwithstanding the treatment. The affusions, instead of being injurious, seemed to moderate the symptoms and retard the fatal termination. By acting in this way in private practice, my reputation ran great risks, and I have been often badly recompensed for doing what my profound conviction dictated; but I remained firm in my course which duty marked out for me, and I persist in it up to this hour, for a stronger reason than formerly; for now, my position being established, my responsibility does not influence me as much. I understand your fears—not that you doubt the advantages of the treatment which you dare not adopt, but because, while consulting before all the interest of the sick entrusted to your care, you yet have to watch over your own reputation, which is so easily affected at the commencement of your career as practitioners. Still, when the voice of duty speaks to you, when your conscience tells you that this treatment you dare not adopt because it is contrary to the prejudices of the world, is a useful treatment, it is still necessary to try it, it is right that you should do it. But then, instead of resisting this prejudice face to face, instead of taking the bull by the horns—if you will pardon me this vulgar expression—avoid the difficulty, by administering these useful cold affusions, leaving the patient, and especially the attendants, in the belief that the affusions are warm.

Scarlatina, as I have already said, especially in its malignant form, has, of all diseases, the highest elevation of the temperature of the body. In some cases, I have also told you, it is as high as 106° Fahrenheit, consequently about six degrees above the normal temperature. Now, do not make use of the affusions, but of simple lotions, and with water at seventy-seven degrees Fahrenheit, that is, 29° less than the temperature of the skin of the patient; relatively it is cold. Put the patient upon a cot-bedstead and sponge the body with this water, first in front and then behind, and then replace him in his bed, wrapped in blankets, as I have already indi-

cated. Although less efficacious than cold affusions, this kind of affusion has a positive effect, and following its application, you will perceive that the skin, which was before very dry and extremely hot, will become in half an hour cooler and moist. What is still more remarkable is the diminution in the frequency of the pulse. Instead of beating in the infant 160, 170, 180 ; in the adult 140, 150 ; it falls to 130, 135, 140, in the former ; to 120, 115, in the latter ; consequently 30, 35, 40, pulsations less. At the same time the cerebro-spinal phenomena diminish in intensity, the vomiting and excessive diarrhœa, symptoms depending upon disturbances of ganglionic innervation, also diminish. Thanks to these lotions, then, you obtain, for a short time I grant, a remarkable sedation. I say for a short time, for in two or three hours the symptoms sometimes return, when the lotions, or affusions, should also be repeated two, three, or four times in the twenty-four hours, and sometimes five or six days in succession.

What becomes of the eruption ? You will observe this fact, which will surprise the assistants and reconcile the family to the lotions, the affusions which they mistrusted ; that, almost invariably, from the beginning of the affusion, the skin, which was pale, or of a faint red color, becomes quite red, and the eruption becomes more developed. These affusions, therefore, not only do not decrease the eruption, but bring it out, so that the parents themselves notice it, and as long as danger continues, they are often the first to solicit its employment, unable to refuse to recognize the amelioration which this method of treatment has produced, particularly struck with the fact that the eruption reappeared more distinct. Yet, in verity, if the result of this amelioration is not favorable, if death takes place, they forget the encouragement they gave you, they accuse you of the misfortune which can only be attributed to the character of the disease.

To meet these terrible symptoms of scarlatina, other internal remedies can be administered with advantage. And first, the *ammoniacals*, the carbonate of ammonia, spirits of mindereri, which is an acetate of ammonia, mixed with some empyreumatic products ; these two medicaments in the dose of $\frac{1}{2}$ a drachm to 1 drachm,—ammonia itself in the dose of 10 to 20 drops,—can be very useful. I shall say as much of *musk*, of which 3, $4\frac{1}{2}$, 6 grains, and even 15 grains, is given in the course of twenty-four hours. These means should be used with prudence ; they constitute an accessory treatment in those cases where the cold affusions are employed ;

when they are not employed, they comprise the principal therapeutical means.

The *angina of scarlatina*, which is accompanied with croupy exudations, when they are not very abundant, is not very dangerous. But in *malignant scarlatina* the disease attacks the throat, and generally the physician cannot prevent it.

I have tried cauterizations with nitrate of silver, with chlorohydric acid ; I have tried borax in collutories ; I have given chlorate of potassa within, and I must say that all these remedies have very often failed in my hands. However, of all these therapeutic agents, the most to be depended upon, chlorohydric acid, applied twice a day, has seemed to be of some use. This caustic is to be used with great prudence and precaution. In children, during the struggle to overcome their resistance, you may burn the tongue, the teeth, the internal walls of the mouth, and thus increase the evil without cauterizing as it should be done. By holding the child properly, and opening his mouth by means of a spatula, you can sometimes obtain good results from these cauterizations, touching the diseased parts twice a day, for five or six days, with a camel's hair pencil saturated in the acid. Insufflations of alum and tannin, used alternately, are also very useful. As to that form of angina which is not observed during the height of the disease, but comes on suddenly about the ninth or tenth day, with an abundant exudation from the nose, with deafness, or severe pain in the ears, foetid breath, frequent pulse, and great depression, as to that angina which is probably only a *diphtheritic complication* of scarlatina, it resists all our efforts. All kinds of treatment which I have tried have failed—nasal injection with styptics, with the solutions of sulphate of copper, of sulphate of zinc, nitrate of silver, with the decoction of rhatany, with tannin, the cauterizations of the throat—all have failed ; patients almost invariably succumbing, whatever you do. In these cases you must rely upon generous treatment, upon sulphate of quinine, coffee, and especially upon a strengthening alimentation.

And now of the *anasarca of scarlatina* and the symptoms which complicate it. I have already stated that it follows less frequently the severe forms than the benign eruptions. Often it constitutes a complication of the greatest importance, in other cases this complication is not serious. When it is slight, I have also said that hygienic means, rest in bed, lukewarm drinks, a moderate diet, is all that is necessary. When, however, the urine contains blood, acid drinks, lemonade, the decoction of uva ursi, sweetened with the syrup of

turpentine, small quantities of digitalis, mild laxatives, will meet these symptoms. But when the hæmorrhage is quite large from the commencement, when the anasarca increases with great rapidity, it will be necessary to resort to other means to prevent the threatening symptoms.

Sulphuric acid given internally either pure or in alcohol (eau de rabel), in the dose of $\frac{1}{2}$ a drachm to $1\frac{1}{2}$ drachms a day, in a draught sweetened with syrup of rhatany, will be found useful when the hæmorrhage is abundant.

The anasarca which comes on rapidly and in a great degree, is ordinarily accompanied with convulsions, which sometimes destroy the patient with the first attack. Energetic *purgatives* are, in these cases, useful, by causing a part of the serum effused into the cellular tissue to be thrown out upon the surface of the intestine. It is also important to place the lower limbs of the patient hanging over the side of the bed, and the head raised by pillows. By this means imminent convulsions may be prevented. But in some cases these convulsions are present from the beginning, coming on without giving warning of their approach. The patient complains of a severe headache, difficulty in the sight, upon one side alone or both together, sometimes ringing in the ears and deafness. In these cases, scarifications of the inferior extremities may be of advantage. What is sometimes better, in attaining the same result, is the application of very large blisters upon the *legs*, and not upon the thighs. After seven or eight hours, phlyctenæ will be formed, and when they are opened serum will flow abundantly from them, relieving the patient, and enabling him to pass the crisis of his anasarca.

If the convulsion takes place, give, during the attack, *musk* in connection with small doses of *belladonna*. For a child, eight or ten years old, musk, in the dose of 3, $4\frac{1}{2}$, or 6 grains; belladonna in that of one-tenth of a grain for a single dose. At the same time you should make use of a means I have employed for more than twenty years, and from which I, as well as other physicians, have experienced great service: I speak of the *compression of the carotids*. This compression requires to be carefully made, and in a certain manner. When the epileptiform convulsion predominates upon one side, the compression should be exercised upon the opposite side. If, then, the convulsion be predominant upon the right side, it is the left carotid which should be compressed, and reciprocally if the convulsion be predominant upon the left side the right carotid should be compressed. If the convulsion be equilateral the compression should be

alternately produced upon the two carotids,—I speak, be it well understood, of the primitive carotids—and even simultaneously upon both, if it is possible to do so without interfering too much with the respiration of the child.

This compression is easier to perform than you would suppose. Place yourself so that the right hand can compress the left carotid, and the left hand the right carotid ; push aside the sterno-cleido-mastoid muscle, while with the back of the ungual phalanx you push aside the trachea, and you will feel the beatings of the carotids. Seizing it, then, from within with the ends of the fingers, carry it backwards a little and press it against the vertebral column. You will instantly perceive that it is compressed, by the absence of pulsation in the corresponding temporal artery, by the paleness which sometimes suddenly succeeds to the previous redness of the child's face, and again by the fact that in some fortunate cases the compression is no sooner established than the eclamptic convulsion ceases. Continue this compression upon one of the arteries for fifteen to twenty minutes, then compress the other. If you have an aid who can assist you, his assistance will be useful to you in this operation; the mother, whose solicitude renders her so intelligent, can replace you. By this means, having patience, the convulsions accompanying the anasarca of scarlatina can be arrested, in a certain number of cases, in a few hours.

There still remains that form of anasarca which, if it becomes chronic, can be relieved. When the convulsions, which are so often mortal, have ceased ; when the hæmaturia, which precedes or accompanies the anasarca has passed, give the patients *diuretics*, nitrate of potassa principally, in connection with small doses of digitalis, give also a remedy prescribed by Graves, the iodide of potassium in large doses.

In some cases the anasarca and the albuminuria, which are ordinarily cured in fifteen days, three weeks, or a month, can become the commencement of Bright's disease. The acute symptoms disappear, the albuminuria persists ; if it persists a month or six weeks after scarlatina, beware of this symptom : it indicates the commencement of Bright's disease ; the kidney is infiltrated with fibro-plastic tissue, after six weeks the fatty element predominates, and a few months later the patient succumbs to this new affection.

Finally, there are a few more serious symptoms which are developed in this last period of scarlatina about the same time as anasarca. They are the *serous effusions of the pleura and pericardium*.

For these the repeated applications of fly-blisters, and if the hydro-thorax or the hydro-pericarditis is very great, puncture may be useful.

In large pleural effusions, thoracentesis sometimes becomes necessary after a very few days. But often, as I have already observed, with the first puncture, even when the effusion has not existed more than ten, fifteen, or twenty days, you will find a lactescent serum, sometimes pus, already formed. Then you have empyema, a formidable complication, which you can frequently cure in young persons by puncture, and repeated iodine injections; but which, in adults, notwithstanding these means, you will rarely cure.

PROCEEDINGS OF SOCIETIES.

Academy of Medicine.

The regular meeting of this body was held October 7th, the President, Dr. VALENTINE MOTT, in the Chair. A continuation of the discussion on puerperal fever having been made, by previous vote of the Academy, the special order of this meeting, a large concourse of the Fellows was brought together. An unnecessarily prolonged and useless debate, springing out of the report of one of the sections, was about to call out the forensic talent of some of its members, who are the self-constituted guardians of its ethics, but who mingle little in its scientific proceedings, when it was suddenly cut short by the motion that the Academy proceed to the order of the evening.

Prof. Barker, being called upon by the President to continue the discussion, rose and said :

MR. PRESIDENT: I should feel some hesitation in offering a few remarks on puerperal fever, after the subject has been discussed for three evenings, by gentlemen whose character, position, and experience, carry with their expression of opinion the greatest weight and authority, were it not for the importance and difficulty of the subject, the opposite opinions which have been entertained by distinguished practitioners in regard to it, its liability to occur in the practice of every physician, and its terrible fatality. It is a disease which cannot be investigated by the study of a few sporadic cases, or of a single epidemic, or of different epidemics in the same locality. Neither is it a disease to be studied in the dead-house, for valuable

as are the researches which have been made into the minute anatomy of this affection, important as it is, for the complete elucidation of the subject, that everything should be known as to the autopsic lesions which are to be found ; yet their variety in different epidemics, the absence of everything like constancy or uniformity in these autopsic lesions, the frequent want of everything like correspondence between the severity of the symptoms during life, and the amount of the morbid appearances found after death, prove, as I think, that these lesions should be regarded as results of the disease, but not as the disease. And it seems to me that there is some danger of our giving undue prominence to these autopsic lesions. We might as well seek to find out the cause of the fire, in a minute chemical and microscopical examination of the ashes of a conflagration, as rely upon the appearances found after death, to determine the character of a disease which results from the absorption of a morbid poison. But is this such a disease? That is the grand question ; and it can be answered correctly, not by studying the disease from one stand-point alone, but by a comprehensive examination of all that has been found out as to its phenomena and laws, in different epidemics and varied localities, as recorded by different observers. Naturally enough, the opinions, especially the scientific opinions of men, have for a basis what they have seen and observed for themselves, and such opinions justly carry with them the most weight. Hence, in puerperal fever, we have had the finest minds and the brightest geniuses in medicine, as exponents of exclusive, special, restrictive views as to its pathology and its therapeutics, their ideas resting entirely on the peculiar type of the disease which they have seen for themselves. The character of this disease, bringing death and desolation into those families which have just exulted in the joy and gladness of a new birth, the medium of infection being sometimes the physician, whose steps are regarded, and should ever prove as those of a ministering angel of comfort and hope ; its sudden onslaught, its speedy results, and its terrible fatality, all have combined to bring out the highest talent, where talent has before lain dormant in the ordinary routine of practice, and has contributed to give us a richer literature on this subject, than is to be found of any other disease. This statement will surprise some whose attention has not been specially called to this subject, but I believe it will bear close scrutiny. In this day of progressive medicine, in our anxiety to bring it up to the perfection of a physical science, it is possible that in our search after what is new and original, we may overlook what is old and proven, and thus that

erroneous deductions may be drawn from the limited experience and observation of a few, which would have been corrected, had advantage been taken of the enlarged experience of the many. We have greatly the advantage of our predecessors in studying this disease. With all the acumen, and careful observation, and extensive experience of Gordon, Armstrong, and Collins, and Gooch, and Ferguson, they had but a limited knowledge of its pathology and therapeutics, compared with what we may have, who can bring together the aggregate results of all their labors, without assuming to place ourselves on the same intellectual level with them. What is puerperal fever? Is it a local phlegmasia? It was believed to be inflammation of the uterus by Mauriceau, Astruc, Denman, and others—to be inflammation of the omentum and intestines, by Hulme, Leake, and others. It was regarded as peritonitis by Gordon, Hey, Armstrong, Mackintosh, and Collins—to be inflammation of the veins and lymphatics, by Dance, Duplay, and others. Prof. Meigs, more comprehensive in his pathology than the authors I have named, considers puerperal fever as metritis, metrophlebitis, peritonitis, or ovaritis, or two or more of these phlegmasiæ combined. He distinctly avows as the object of his work, “to prove that it is a simple state of inflammation in certain tissues of pregnant women, and of women lately confined, and that the fever that attends it is a natural effect of intense constitutional irritation from the local disorders.”

In the discussion before the Academy, I think I am not wrong in asserting that we have had presented inferentially, if not directly, two entirely distinct, not to say opposite views, as to the essential character of this disease. Prof. Smith, in his very able and complete paper on its causes and modes of propagation, very plainly announces his belief that it is an idiopathic fever. In the interesting and valuable contributions to its morbid anatomy, made by my friend and colleague, Prof. Clark, although he has not definitely expressed his opinion as to the pathology of the disease, yet I think the legitimate deduction from what he has said must be, that it is a local phlegmasia. He says, “Puerperal fever has four principal lesions, and many of a secondary character; inflammation of the peritoneum, inflammation of the veins of the body of the uterus, inflammation of the inner surface of the uterus, or endo-metritis.” He expresses his belief that, in every case, one of these lesions will be found. He distinctly asserts that these lesions are inflammatory. He also states his conviction, “that those cases described by Gooch, Locock, Simpson, and others, as without lesion, were cases of pyæmia, and that the pyæmia has

its source in the inflammation of the inner surface of the uterus, and the facility with which the uterine sinuses could convey the pus into the system was shown."

Without stopping at the present moment to discuss the question, whether pus, the product of simple ordinary inflammation, if absorbed or washed into the circulating blood, will produce the symptoms which we call pyæmia, or whether, in fact, another element besides laudable pus is not essential for the production of these phenomena, it is sufficient for my present purpose to remark that *inflammation* is claimed distinctly to be the essential characteristic. In other subsequent remarks, Prof. Clark declares that "the *primary* lesions are in the organs of generation, the *secondary* are in the blood, and are found, indeed, in almost every organ of the body." It seems to me that this is equivalent to a distinct avowal of the doctrine of local phlegmasia. The whole question of contagion must turn upon this point, for if it can be established that puerperal fever is simply a local phlegmasia, modified only by the puerperal state, I think we shall be compelled to give up the doctrine of contagion. Besides, the pathology of the disease must form the basis on which to rest all intelligent discussion of its treatment. As preliminary to an expression of views in regard to the pathology of the disease now under consideration, I may remark, that important as is pathological anatomy, now so zealously cultivated, its prominence in the present age has resulted in some evils. It has led to exclusive *solidism* in medical doctrines, as is strikingly manifest in the opinions held by many in regard to other of the zymotic diseases, as typhus fever and cholera, as well as puerperal fever.

It seems to me a very important question to determine whether, in puerperal fever, the primary lesions are in the organs of generation, and the secondary are in the blood, or whether the order of phenomena is not reversed! This involves the whole question in discussion. It is only asking, in other terms, whether puerperal fever be a local phlegmasia or a zymotic disease. In as brief terms as may be consistent with clearness, I will assign my reasons for believing that puerperal fever is a zymotic disease, having an essentiality altogether distinct from inflammation of any tissue or structure of the body, even in a puerperal woman. Here I wish to remark that the puerperal state, *per se*, cannot alter, in any sense, the laws which govern inflammation. It may, and undoubtedly does increase, under certain circumstances, the susceptibility to inflammatory action, but it may, and often does, produce a condition of the system directly antago-

nistic to inflammation,—such a condition as must notably decrease the tendency to inflammation ; and it is precisely in this latter condition that we find the most virulent, the most intractable forms of puerperal fever. What do we mean by the puerperal state ? It can only mean the physiological and pathological organic changes induced by gestation, the organic changes produced by parturition, and the physiological changes which follow it. Now there are nothing in these changes which can essentially change the laws of inflammation, when we have inflammation alone. Occurring under these conditions, I think I shall subsequently show that it does not materially differ from inflammation occurring in the non-puerperal state. Now, in giving my reasons for believing that puerperal fever has an essentiality, that it is something entirely distinct from local phlegmasiæ, it will be seen that I adopt a line of argument parallel with that followed by Dr. Stokes in his masterly lectures on typhus fever.

First, then, puerperal fever has no anatomical character. That there are a great variety of structural lesions found, all will admit. The four principal lesions are, as Dr. Clark has said, those of the peritoneum, of the veins of the body of the uterus, of the lymphatics, of the inner surface of the uterus. And then we have lesions of the pleura, of the lungs, and pus in the liver, in the muscles, in the joints, and pus in the blood. But where we have a group of symptoms so resembling each other that they are almost identical, we do not have constant or uniform structural lesion. They are inconstant in their seat and their amount. In the same epidemic we have the greatest possible variety in their seat and their amount. Lesion of the peritoneum may be present or absent,—so of the uterus, so of the lymphatics, and so of the veins. In those cases, which Osiander, Gooch, Locock, and Simpson, suppose to be cases of puerperal fever without lesion, conceding the correctness of Prof. Clark's view, that with a proper examination pus might have been found in the veins of the uterus,—that they really were cases of pyæmia, what does this prove ? In legal parlance, I should put in a demurrer. Admit the fact, will any one claim that all cases of puerperal fever are cases of pyæmia, and that inflammation of the inner surface of the uterus, or of its veins, is an essential anatomical characteristic of puerperal fever ?

2. These lesions are often not sufficient to influence the progress of the disease, or to explain the cause of death. The most malignant form of the disease, that in which a fatal result occurs the most

speedily, offers the fewest and the least striking structural lesions. The longer the disease continues, the more prominent and the more manifest are the organic lesions. Does not this prove that the lesions are consecutive or secondary,—that there is a primitive source, an original cause of vital depression, which sometimes destroys life so rapidly that there is no time for the development of the secondary morbid alteration. The symptoms are not, then, the result of these lesions, but the result of some specific agent—some morbid poison, which subsequently develops the autopsic lesions. Sometimes this morbid poison so overwhelms the system, that the patient dies in a few hours, without any reactional symptom. It is not in these cases that we have the most marked structural lesions.

3. We may have inflammation, even to an intense degree, of any of the organs in a puerperal woman, in which the principal lesions of puerperal fever are found, and yet the disease will lack some of the essential characteristics of puerperal fever. I mean to say, we may have peritonitis, or phlebitis, or metritis, in the lying-in woman, and yet the disease will be quite distinct in its mode of attack, in its symptoms, in its morbid anatomy, and in its treatment, from puerperal fever. Take peritonitis, for example: it may be excited by a difficult and protracted labour, by the application of cold to prevent hæmorrhage, by improper exposure, and by other well known exciting causes. But puerperal fever, with the peritoneal lesion, may attack the patient after most favorable delivery, and without any obvious cause. Then the symptoms of the disease show that it has a special character, for in the puerperal fever, with the peritoneal lesion, the symptoms of the first stage of peritonitis are absent; the peritoneal symptoms are those of the second stage, or that of collapse, as for example, we have diarrhœa very frequently instead of obstinate constipation. The pain in peritonitis commences in the region of the uterus. In puerperal fever the pain often commences at the epigastrium. In peritonitis the pulse corresponds in character with the local symptoms, increasing in frequency as the local symptoms increase, diminishing as they disappear. In puerperal fever the pulse bears no relation, or at least a very slight one, to the local symptoms. In puerperal fever it is the pulse which tells the story, as to the exact condition of the patient, not the local symptoms. So also we may have phlebitis in the puerperal woman, and not have puerperal fever. No one, at the present day, would use the term *phlegmasia alba dolens*, and puerperal fever, as synonymous. Yet this is a phlebitis, a circumscribed, adhesive inflammation of the vein, to be

sure, but nevertheless a phlebitis. But I go farther : we may have uterine phlebitis, and not have puerperal fever. The same contrast could be drawn between the two, as regards the mode of attack, symptoms, and treatment—the difference being, that the one disease follows the laws of ordinary inflammation, and that in the other the toxæmic origin of the disease gives it quite a different character. These differences were strikingly illustrated in the recent epidemic at Bellevue Hospital. In the beginning of the epidemic I had charge of the lying-in wards. I must ask permission to read a short extract from the April number of the *AMERICAN MEDICAL MONTHLY*, giving some clinical remarks of my own, made at Bellevue Hospital on the 7th of February last :

“In the latter part of January, succeeding a period of almost unparalleled cold, came that long spell of warm, damp, close, foggy weather. This change had scarcely set in, when one after another, as the women were delivered—these wards having been previously healthy—they began to develop, one pelvic cellulitis, another peritonitis, another ovaritis, another metritis, all of the asthenic type, and with an early tendency to gangrene or suppuration, while scarce one escaped without a threatening at least, of those terrible torments of nursing women, sore nipples or mammary abscess. Indeed so well established did this state of things become, that a pulse of one hundred and twenty and a flushed cheek were looked for as matters of course on the morning after confinement, and the pleasant, soft pulse, and cool skin of the physiological recovery, were luxuries which the attendant physician dwelt lovingly and long upon, when at long intervals they presented themselves. These cases, notwithstanding that they bore the outward semblance of inflammations, were yet, in their mode of progression, constitutional effects and indications for treatment so different from the ordinary puerperal masia as to lead Dr. Barker to announce his belief in the specific character of these diseases; that the quasi inflammatory processes taken on by these organs were, in reality, the results of the action of a poison infused into them through the blood, and stirring up its peculiar excitement wherever it found the proper amount of combined irritation and exhaustion to insure it a nidus, just as the typhoid poison awakens its deceptive pseudo-inflammations in the brain, the lungs, the intestines. ‘Treat these cases,’ said he, ‘as idiopathic inflammations, and you must inevitably kill your patients.’ Most of these cases were treated successfully, by early local derivation or depletion, followed or even accompanied by profuse general stimu-

lation. Three, however, terminated fatally, two by suppuration into the pelvic cavity and purulent absorption, in one of which a large number of abscesses, from the size of a walnut down, were found in the lungs—and one by gangrene of the cervix, extending to the mucous membrane of the body, and involving to a slight extent, the posterior walls.”

The next point, to which I wish to call attention, is that the lesions themselves differ materially from those having an inflammatory origin. Prof. Murphy has so clearly pointed out these distinctions that no apology is necessary for quoting them :—

“In *peritonitis* all the arterial capillaries are highly injected : hence the intestines are streaked with bright red lines of capillaries that encircle them. In *puerperal fever* the *venous* capillaries predominate : hence the livid hue of the intestines, and the dusky red color of the patches and streaks on their surface. In *peritonitis* the lymph which is poured out is adhesive, uniting the different parts like glue. If removed from the surface of the intestine on which it is deposited, the strings of this lymph are broken across, and the surface is rough ; the quantity of serum poured out is not great, and, being lodged in the cavity of the pelvis, may at first escape observation. In *puerperal fever*, that which we call lymph is not adhesive : it is much more abundant than adhesive lymph, covering the fundus of the uterus, the intestines, the liver, the diaphragm ; it is found, also, in the pleura : its color varies from a dusky brown to a pale yellow : it may be peeled off the liver, the intestines, or the uterus, quite easily : the surface from which it is taken is smooth, and that of the intestines is a dark red color. The quantity of serum is equally profuse ; and this substance being dissolved in it, gives it a lactescent appearance, like pus : hence it is called sero-purulent fluid. Thus, when the abdomen is opened, a large quantity of this fluid always escapes. It will be objected that this sero-purulent fluid is also met with in *peritonitis*. This is perfectly true ; but it is necessary to note the stage of the inflammation in which it is observed. I have never met with it unless in the second stage of the attack. When a patient died in the first stage there was none of it. I conclude, therefore, that in the former instance (the second stage) such effusions only occurred when the constitution was sinking under the attack ; but in the latter, when death took place from a different cause, the effusions noticed were the true products of inflammation. In *puerperal fever* the greater the intensity of the seizure the less the chance of meeting anything like lymph. In the

most intense forms no effusion at all may take place. In a degree less intense, a large quantity of serum, colored brown by blood, is found in the peritoneum and throughout the tissues: the lymph poured out is of the same color, having no adhesion to the surface on which it lies, as if the fibrine of disorganized blood had been deposited there. In the next degree, the same kind of lymph, or fibrine is found, of a yellow color, with a quantity of sero-purulent fluid. And lastly, in those cases in which the constitution for a time struggles successfully against the fever, some adhesive lymph will be met with, mixed up with a larger quantity of what I have just described."

The next argument which I adduce in proof of the doctrine that puerperal fever is a zymotic disease, and not a local phlegmasia, is that simple inflammatory diseases are not communicable from one patient to another through the medium of a third party. It may be objected that this argument assumes that puerperal fever is thus communicable, which is not proven, and is one of the points now under discussion. With all due deference to those present who may differ from me, if any such there be, I must be allowed to say that I think no one fact in medicine is better established than this. The question of contagion is not one of abstract reasoning, but one of facts; and of these facts, a few, amounting to positive demonstration, must be conclusive. Negative testimony is utterly worthless in settling such a question. I should almost feel that I insulted the intelligence of those present by entering into an argument on this point at the present day. Prof. Oliver Wendell Holmes, in his essay on the contagiousness of puerperal fever, has brought together an array of facts which must, I think, be convincing to every unprejudiced mind. For myself I would say, with Dr. Blundell, that I had rather those I esteem the most should be delivered, unaided, in a stable, by the manger-side, than that they should receive the best help, in the fairest apartment, but exposed to the vapors of this pitiless disease. I would heartily concur with the emphatic declaration of Dr. Holmes, that "if, on this point, there is any voluntary blindness, any interested oversight, any culpable negligence, even in such a matter, and the facts shall reach the public ear, the pestilence-carrier of the lying-in chamber must look to God for pardon, for man will never forgive him." Now, then, if this disease is thus communicable, is there any other local phlegmasia that is thus communicable? It may be objected that dysentery is sometimes contagious. I think I have myself been through an epidemic of dysentery which was evidently

contagious, but I should answer, first, that it remains to be proved that this form of dysentery is simply a local phlegmasia ; and secondly, that there is no evidence that a healthy person can communicate this disease from one person to another.

My next argument is that the prophylaxis of puerperal fever is not the prophylaxis of local inflammation. In the large hospital of Vienna, from 1840 to 1846, one in every ten mothers delivered perished, chiefly from puerperal fever. In May, 1847, Dr. Semelweis prevented students from touching parts at the autopsies, and directed all of them to wash their hands in a solution of chlorine, before and after every vaginal injection; and the mortality from this time so far diminished that in 1848, not above 1 in 74 mothers died. Does not this fact prove the toxæmic origin of the disease in these cases, and that the local lesions are secondary—reäctive, and have less pathological value than the change which precedes it ?

It may be objected that the views which have been advanced as to the pathology of puerperal fever, entirely ignore the existence of an epidemic influence, and that the epidemic influence may give a specific character to the local phlegmasia. From Sydenham, we have learned the phrase, "type of the season," and another phrase has come into use, meaning nearly the same thing, viz: "epidemic constitution." Now what is meant by these terms ? Clearly they must refer to certain atmospheric or telluric influences which modify the susceptibility of the system to disease, or which increase the virulence of the poison which develops disease. That this influence really exists, acting in both ways, I think there can be no doubt. It sometimes produces its influence wholly on the system, diminishing the vital resistance to disease, and rendering inflammatory action asthenic in its type; or the opposite result may be produced. So also, it may increase the virulence of the poison which gives rise to the zymotic diseases. Puerperal fever is most notably susceptible to an epidemic influence. I have thus given my reasons for believing that puerperal fever is an essentiality, that it is a zymotic disease, resulting from the absorption of a specific poison, and that its anatomical lesions are secondary.

The etiology of this disease has been so fully and so ably brought before the Academy by Prof. Smith, that I should not expect to be listened to with patience if I attempted to add anything to what he has said. So also in regard to its semeiology, it would be presumptuous in me to attempt to add anything to what is already known to the profession. The question of contagion, is one on which

the profession is divided. My own views on this point have already been sufficiently clearly expressed. I certainly would not, at this day, seek to change the views of any one who has intelligently formed a different opinion, for I should deem it a hopeless task. As I do not intend again to occupy the time of the Academy during this discussion, I will beg your indulgence while I make a few remarks in regard to the treatment. This is the grand aim to which our discussion should tend, and its practical value rests on the bearing which it has on the therapeutics of the disease. The statistics of the disease show that when it prevails in an epidemic form, about one in three die. It is to be hoped that in the progress of medicine, the resources of art will prove successful in greatly diminishing this frightful mortality. In some cases, the morbid poison is so intense as to overwhelm at once the vital powers. Just as in some cases of malignant scarlet fever, there is no capacity for reëction, and the patient dies in a few hours after the attack. In such cases as these, art must stand back appalled. The treatment of puerperal fever has afforded quite as fruitful ground for controversy as its pathology. I do not propose to review the various plans which have in different epidemics been supposed by violent partisans to be the most successful. I shall only refer to those general principles which should in my estimation govern the treatment—and give a few illustrations of some special methods of treatment. There are no specific therapeutics for puerperal fever. The sooner this idea is dismissed from the mind, the more probable is it that the treatment adapted will have a rational and philosophical basis. No one method is adapted to all types of the disease. It must vary according to the virulence of the epidemic or special poison, according to the condition of the system as to its vital powers when the poison is received, and according to the intensity and severity of its secondary lesions. I should say in general terms, that the indications are: First, to eliminate from the system as much of the morbid poison as is possible, by means of depletion and the other evacuants, as purgatives, emetics, diuretics, &c.

Unfortunately this indication, owing to the peculiar character of this disease, can rarely be fulfilled, except to a limited degree. In the opinion of some, venesection is the grand remedial agent for puerperal fever, although, at the present day, the advocates of this measure, as essential to its successful treatment, are few in number. It proved to be the most efficient remedy in the epidemics met with by Gordon, Hey, Armstrong, and in one seen by Gooch. But in

other epidemics, we have the testimony of equally sagacious observers, that it could not be borne. It proved an agent of destruction. Prof. Murphy has well made the point, that it may prove useful, where it can be tolerated, as a means of evacuating a certain amount of the *materies morbi*, thus relieving the central organs in which this poisoned blood has accumulated. It has not been my lot to see those epidemics which would tolerate blood-letting, yet I believe there are some. In sporadic cases it is, doubtless, much more frequently indicated. It seems to me that the principle which should govern our practice in this disease, should be the same as would govern our practice in any other disease. Venesection should never be resorted to simply because the case is one of puerperal fever, but because the symptoms indicate that depletion is necessary. Admitting the pathological view, that "the fever is a natural effect of intense constitutional irritation, from local inflammation," it does not follow that blood-letting will be the remedy, or even that it can be tolerated. Rejecting this pathological view, it does not follow that venesection is not sometimes of great importance in the treatment of this affection. I hold that it is equally absurd to insist upon this as the cardinal remedy, as to denounce it as never applicable in the management of this disease. Common sense, not theory, must be our guide in regard to the use of this measure. The same general principles should govern us, in resorting to purgatives, emetics, diuretics, &c. Each of this class of agents has had warm advocates, and have, undoubtedly, been specially indicated, and proved eminently successful in certain epidemics. They are neither to be excluded wholly, or relied upon entirely, in the treatment. They may be indicated in certain cases, but they are only to be resorted to when there are special indications for their use. We are to remember that it is not generally our rôle to put out the fire, but to treat the burn, and hence the importance of the second indication, viz :

To control the vital disturbances resulting from réaction. These are principally vascular excitement and nervous irritation. It is unnecessary for me to enter into an elaborate argument, to prove the importance of these indications, for it is obvious that by vascular excitement and nervous irritation, the vital powers are exhausted, and death follows. It has been before remarked that it is the pulse which indicates the condition of the patient, much more than the local symptoms. Of the agents for reducing vascular action, we have first, venesection, when it can be borne, which is rarely the case.

This means of reducing vascular excitement involves a loss of vital power. But we have, in the *Materia Medica*, an agent lately brought prominently before the profession, which acts specifically as an arterial sedative, without depressing the vital powers. I refer to the *veratrum viride*. We are indebted to Dr. Tully, of New Haven, for our first knowledge of its medicinal properties, and the profession in certain parts of Connecticut were familiar with its use long before Dr. Norwood's name was associated with it. It is simply and solely an arterial sedative. By it the pulse can be brought under voluntary control. For more than twelve years I have been accustomed to use it for this purpose, and for several years I have used it in puerperal fever, and in no disease have I seen its value more strikingly exhibited. It is an agent which requires care in its use, and in those cases where its full effects are required, I never allow them to be left without careful medical watching. The patient must be seen at short intervals. I have never seen any unfortunate results from its use, but I have seen it give rise to very severe temporary depression.* As an illustration of its action, I will read the report of a very severe case of puerperal fever, which occurred in my service at Bellevue Hospital. (See page 281 of this number.)

Now here is a case occurring in a hospital, at the time of an epidemic, presenting a combination of symptoms which all familiar with the disease would pronounce truly alarming. By the *verat. virid.* the pulse was brought down from 140 to 60 per minute, and it was never permitted to rise above 80. The quantity administered varied according to the condition of the patient, two, three, or four drops being frequently sufficient to control the vascular excitement. No other medicine was used. In many other puerperal cases, I have seen equally striking results. I will briefly mention one which I saw, in consultation with Dr. Sayre, the tenth day after confinement. She was a primipara, and her convalescence seemed perfectly normal, until the sixth day, when she began to exhibit some appearance of mental disturbance. She was especially anxious in regard to her relig-

* There is a marked difference in the power of the article grown at the South, as compared with that grown at the North, which should not be forgotten in prescribing it. When I removed to this city, in 1850, the *tinc. veratrum virid.* was not kept by the druggists here, and I therefore procured some from Norwich, Conn. I was accustomed to prescribe this (a saturated tincture made from the article growing in Connecticut) in doses of from 12 to 20 drops. In the first case in which I made use of the tincture now found in the shops here, alarming prostration was produced, and I soon learned that I must diminish, very decidedly, the dose. Prof. Dickson, of Charleston, S. C., informs me that 7 drops is a large dose of the tincture used at the South.

ious condition. Gradually a high state of nervous excitement was developed, with insomnia, and when seen by myself, she had been decidedly maniacal for more than twenty-four hours. Her respiration was short and hurried, her pulse very rapid, her countenance anxious and frightened; she was incessantly talking and starting with apprehension, from the slightest movement in the room. No physical exploration could be obtained, but there were no local symptoms indicating pelvic trouble. She sat up in bed, and moved from one part to another with great rapidity. The *ver. vir.* was now given, and by its influence the pulse was brought down below 70 per minute, the respiration became slower, the mind tranquil, and she was enabled to sleep. I am informed by Dr. Sayre, that in the course of a few days there was developed, in the pelvic cavity, an extensive abscess, which pointed externally, near the sacrum. Her convalescence was somewhat prolonged, but she eventually recovered.

One of the most important indications we are called upon to fulfill, in the management of this disease, is to allay nervous irritation. There is no doubt that the most frequent of all the lesions of puerperal fever, are those of the peritoneum, and that the disturbance to the nervous system is much more severe than from any other local cause. It is well known to most of the profession, that within the last four or five years, this has been treated by heroic doses of opium, or of some of its preparations. It has long been used by the profession in the treatment of peritonitis, and Graves and Stokes have demonstrated its great value in idiopathic, or traumatic peritonitis, but to Prof. Clark belongs the honor of fully testing it, in what he calls puerperal fever, with peritoneal lesion. This is his own ground, and I will not encroach upon it, inasmuch as we hope to have, in detail, the results of his enlarged experience. I have treated a few, a very few compared with him, by this method. It is astonishing to see to what extent patients will tolerate opium, where the peritoneal lesion predominates, but it is only in this form of fever that this great tolerance exists. The quantity given in some cases, without producing narcotism, is enormous. But there is one point to which I wish to call attention, and that is a test whether the action of this drug is proving beneficial or not. If opium be pushed to incipient narcotism, or a point little short of it, a gradual decrease in the frequency of respiration results. In some of my cases, the respiration went down to 14, 12, and 10 per minute. Now, then, the opium treatment is acting beneficially, when, in connection with the reduction of the

frequency of the respiration, there is a corresponding decrease in the frequency of the pulse, but if the opium is pushed to the point of incipient narcotism, the respiration growing slower and slower, without a corresponding decrease in the pulse, I should say the opium treatment is to be abandoned at once. In one case that occurred at Bellevue Hospital, some two years since, the opium had been pushed to such an extent, that galvanism had been resorted to to make her breathe. When I saw her, the respirations were 10 and 11 per minute, while the pulse was about 140 per minute. Seeing this slow respiration, with the frequent pulse, I suggested that no more opium should be administered, as I thought its continued use would be likely to overwhelm the vital powers. The *veratrum viride* was then given, and in a few hours the pulse came down below 80. This patient eventually recovered. I will state, then, as my conviction that in that class of cases where the peritoneal lesion predominates the opium treatment has proved successful to an extent which no other has.

In many cases, to control the vital disturbances resulting from reaction, it will be necessary to use a variety of agents to accomplish this end. Venesection, *veratrum viride*, opium in full doses, camphor, all may be indicated, and prove eminently serviceable in the same case. In illustration of this, I will mention a case which occurred in my private practice. The patient, a *prima-pari*, was delivered by the forceps, after a very severe labor, on the 4th of July last.

On Sunday, the 5th, everything seemed to be going on in the most favorable manner. I saw her again on Monday morning, and there was no indication of disturbance of the general system, except that she complained somewhat of nausea, her breath smelled like raw beef, and the tongue was covered with a pasty, white coat. I was sent for to see her again that day, between 5 and 6 P. M. I found that she had been seized, a little time before, with a violent rigor, her countenance was pale and haggard, wearing an anxious, despondent look. She complained of intense pain over the lower part of the abdomen, particularly over the left iliac region. Her pulse was about 132 per minute. Here was a case calculated to excite the gravest apprehension. The following prescription was made, and it will at once be apparent what indications it was designed to fulfill :

R. Pulv. G. Camphor, - - 3ss
Sol. Morphiae (Majend.), - gtt.lxxx
Tinc. Aconite, - - - gtt .xvj
Mucill. G. Acaciae, - - - 3jv
M. S. A tablespoonful every second hour.

Turpentine fomentations were applied to the abdomen. She was seen again by me late that evening. The pain was decidedly less, but the pulse continued very frequent. She obtained no sleep that night. The mixture was continued the next day, at intervals of four hours. On the third day from the attack, fifth after delivery, she was seen by my colleague, Dr. Peaslee, who found that the pain had ceased, skin soft, pulse 92, but there was still this pasty coat upon the tongue. She subsequently had some swelling and pain in the left leg, along the track of the crural vein, but this continued but two days. The mixture was continued in diminished doses for several days afterwards, as the pulse continued frequent after all the local symptoms had disappeared. She had no mammary secretion. Under this treatment alone she perfectly recovered. I will give a brief outline of another case, which was to me most interesting and instructive. This patient was confined about the 1st of August, and in this case also the forceps were necessary on account of the position of the head. It was the right occipito-iliac posterior, the occiput rotating back to the sacrum, instead of anteriorly. After the labor was completed, I gave her a full dose of opium, as I usually do, when it has been severe. For two days after delivery, everything went on favorably, but on the evening of the third day, she had a slight rigor, and was seized with a most intense pain in the lower part of the abdomen and in the vagina, so severe that although a person of great self-control, she shrieked out with agony. Her pulse was very rapid. Turpentine fomentations were applied to the lower part of the abdomen, and Majendie's Sol., in full doses, was given until the pain subsided. The pulse continuing very rapid, I then gave the *verat. virid.* in 12 drop doses every hour, until the pulse was brought down below 80, and there it was my aim to keep it. On the evening of the fifth day after confinement, I was sent for in great haste, when I found her with symptoms of cerebral congestion of the most alarming character. The attack had come on suddenly, without premonition. She complained of asphyxia, her countenance was livid and turgid, and every appearance was such as to indicate the most imminent danger. I should mention that, although not a person of full habit, I had found it necessary to bleed her a few weeks before confinement.

I now opened a vein and abstracted about 303, which at once relieved her of her cerebral symptoms. Previous to her confinement the urine had been tested for albumen, but none was found. The blood now drawn was examined by my friend Prof. Doremus, and

found to contain urea. I say after bleeding there was entire and complete relief from all the cerebral symptoms, but still the pulse remained rapid and frequent, and there was still a tendency to pain in the vagina and pelvic cavity, requiring the occasional use of Majendie's solution. The point that I wish to call attention to is, that the second day after venesection the local symptoms disappeared in a great measure, but if the *veratrum viride* was not continued the pulse would become extremely rapid, and this patient required the constant and steady use of this remedy for thirteen days. It may be said by some that these were not cases of puerperal fever, and I have anxiously asked myself the question whether they were so or were cases of local phlegmasia. I answer that they were cases of puerperal fever, and I will mention only one reason for believing so, viz : after all the local symptoms had disappeared there was still left evidence of poison in the system as shown by the rapid pulse.

3d. To combat the local secondary lesions which may be developed. I will not take up the time of the Academy in enlarging upon this part of the treatment. Local depletion, counter-irritation fomentations to the abdomen, turpentine endermically, opium to subdue pain, chlorinated injections—the value of all these measures where special indications for their use exist, has long been settled by the profession. The discriminating physician will employ each or all of these methods as adjuvants to the radical treatment of the case. I will only add one other indication, viz : to sustain the vital powers of the system. In other words, keep the patient alive. There are a certain class of cases where the system seems to be overwhelmed, and yet life will be preserved by the heroic use of stimulants and good nutrition. I believe many are permitted to die from the neglect of these resources. It seems to me that after a patient with puerperal fever has lived for forty-eight hours, there is constant encouragement for effort, and that the danger is, in a certain sense, diminished in proportion to the duration of the disease. Without enlarging upon this topic, I will read a brief abstract of another case, reported by Dr. Cobb, which occurred in my service at Bellevue Hospital, which I think will illustrate my ideas better than argument. This patient was so utterly prostrate by the disease, and had such a variety of secondary lesions, that she was regarded by myself and all who saw her as past praying for.

“Matilda Smith, aged 21 years, first pregnancy, was delivered, in the lying-in wards of Bellevue Hospital, of a healthy child, at full term, at 8 P. M., February 11th. For the first few days after

delivery she appeared to be doing well. Nothing unusual occurred to call attention to her case until February 17th, when she had a severe chill, with a quick, rapid pulse, and intense pain over the region of the uterus. The vaginal discharge was profuse, very dark colored, and excessively offensive. A large blister was applied over the region of the uterus, and Dover's powder, calomel, and camphor were administered, and she was removed to the fever wards.

This treatment was continued for forty-eight hours but without benefit. On the contrary, her symptoms were constantly growing worse. Her pulse was above 140, weak and irritable. Exquisite tenderness over the uterus, the vaginal discharge abundant, very black, and extremely offensive. She vomited frequently a greenish colored fluid and became somewhat deaf. Dr. Barker now ordered porter, milk punch, beef tea, as much as the stomach could take care of, and a full opiate at night. For ten days her condition varied but little from that above described. The stimulants were pushed to the point of tolerance, but the pulse continued very weak, rapid, and irritable. Her whole aspect was as bad as possible. Quinine was tried, but it could not be borne as it induced severe headache.

February 28th she had an attack of capillary bronchitis, accompanied with profuse perspirations and coldness of the surface. This was relieved by extensive dry-cupping over the front and back, and the liberal administration of Carb. Ammonia. A few days after an abscess made its appearance in the right mamma, which, when opened, gave exit to at least two pints of very offensive pus. She also had a large bed-sore. These three complications, capillary bronchitis, mammary abscess, and bed-sore, made their appearance about the same time. Diarrhoea set in March 3d, which was found very difficult to control. On the 4th it is recorded that she took a moderate quantity of beef tea, two bottles of porter, and 30℥ of port wine. March 5th, she appears somewhat better. Pulse varying from 125 to 135. Perspirations still very profuse, and vaginal discharge was still very offensive. Tenderness over the uterus not so intense; diarrhoea ceased. From this time she gradually improved, but her convalescence was greatly retarded by the extensive suppurations in the mamma and bed-sore. Early in April she was discharged cured."

This case was watched with great interest by the students in attendance from the different Colleges, and I need not add that her recovery was as gratifying as unexpected. In the interesting history of the recent epidemic of puerperal fever in the Dublin lying-in-hospital, by Dr. McClintock, the present able Master, it will be observed

that he found it necessary to make a liberal use of stimulants. Apologizing for the length of my remarks, I will occupy the time of the Academy no longer.

Prof. Clark then rose and stated, that he did not rise to continue the discussion. He congratulated the Academy upon hearing such an interesting paper from Dr. Barker. If he was not witty himself he seemed to have been the occasion of wit. It had proved a good fortune to the Academy that Dr. Barker was not present when this subject had been brought up before. The Academy would agree with him that it was a very connected and substantial argument to prove his point. It did not differ very materially from his own views on the subject, and he would propose that it be continued for discussion at the December meeting, when he hoped to be present. At the time of the November meeting, he thought it probable that he should be obliged to be absent from the city.

EDITORIAL AND MISCELLANEOUS.

—We return to the subject of catheterism of the air passages once more, although it has received frequent and lengthy consideration in our pages,—we return to it because we wish to chronicle an echo from the other side of the Atlantic, which echo, if we do not speak early, may be mistaken for the original voice. Our recent exchanges from Paris are full of this proceeding. The Academy of Medicine of that city has had a lively discussion upon the subject, Velpeau, Trousseau, Piorry, and Depaul having engaged in it. The possibility and the practicability of the operation have been emphatically endorsed by that body, and now there will be no cavil upon this side of the water. Now the medication of the interior of the larynx will no longer be doubted, and now we fear Americans will yield the palm to our Parisian confrère,—and why,—because they *fear* to yield it to one of their own countrymen.

The discussion in the Paris Academy arose from the Report of MM. Trousseau and Blache upon a paper presented at a previous sitting, by M. Loiseau, entitled “*A simple and easy method of entering the air-passages in order to cauterize them or to extract false membranes, to dilate the glottis, to introduce substances used in the treatment of croup, either in the form of liquid or in powder, and finally to take the place of*

tracheotomy” We translate the report and the discussion in full, as we find it in the pages of the *Union Medicale* for August 27, 1857. The discussion suggests many thoughts which our space will not permit us to record this month. We may return to it at another time.

“The numerous cures obtained by means of tracheotomy,” says the reporter, M. Trousseau, “have latterly removed the kind of interdiction which was held over this operation. Still, it is not yet adopted by all, and it is practised by only a very few of our profession. Most decline to operate, either because they consider the operation in itself too difficult, or because its utility is not sufficiently demonstrated.

It was after he had seen several children attacked with croup die, upon whom tracheotomy had not been performed, although indicated, that M. Loiseau invented some instruments and a method of operating for entering the larynx as the pharynx is entered. His invention dates from 1840.

M. Green, of New York, had already made use of a stiff curved whalebone, armed with a sponge, for entering the larynx, and the operation was facilitated by a tongue-depressor, which is in itself an excellent instrument, constructed in the form of a large spatula, concave upon its inferior face, and its horizontal portion so adapted as to be applied to the tongue, and ending in a handle, which is united to it at a right angle, so that the hand will not interfere with the view of the interior of the throat. By this instrument the epiglottis can be easily shown, yet the extremity of the whalebone instrument passes the aryteno-epiglottic folds with great difficulty on account of their convulsive contraction, and even upon the cadaver the attempt succeeds only one time in four.

The method of M. Loiseau is simple and infallible. He protects the metacarpal phalanx of the left index finger by a metallic ring two or three centimetres in height, and introduces it rapidly and deeply into the mouth so that the ring may be placed between the molar teeth, and keep the jaws apart. With the extremity of the finger which is free, he depresses the tongue, seizes the epiglottis, raises it and presses the end of the finger between the aryteno-epiglottic folds. There is, then, nothing more easy than to make the end of the tube, which is only the tube of Chaussier, glide over the finger. The air which escapes through the exterior extremity of the tube, proves that it has really entered into the larynx. Through this tube serving as a conductor a caustic, the nitrate of silver, for example, or any other medicated substance, may be carried in the currette of a flexible metallic shank.

In the place of the laryngeal tube, forceps may be used, by means of which foreign bodies which have fallen into the air-passages may be easily extracted.

In May, 1839, Dieffenbach, in a case of croup, made use of this means in a similar manner. To him, therefore, belongs the priority of the invention; but, adds the reporter, it is certain that M. Loiseau was absolutely ignorant of the discovery of Dieffenbach. This sur-

geon has not published it, and it is only by accident that the commission became acquainted with the fact.

As to the operation of laryngeal tubage, proposed by M. Loiseau in the last part of his memoir, proposed anteriorly by M. Reybard, an operation which consists in leaving a canula in the glottis, it is rejected by the reporter as a barbarous and impracticable method.

En résumé, the operation of catheterism of the larynx, which is the principal point in the memoir of M. Loiseau, is considered as a very good means for taking the place of tracheotomy, and at all events to be tried before that operation. He proposed in consequence, that the thanks of the Academy be given to the author, and his paper be sent to the committee of publication.

M. Depaul.—I ask M. Trousseau's permission to recall to his recollection, that this process which he finds excellent, was employed and described by me fourteen or fifteen years ago, in words almost identically the same as those employed by M. Loiseau. He can be convinced of this if he will consult the journal of M. Malgaigne, in which my communication was inserted. M. Malgaigne has since cited it in his Treatise on Operative Medicine. M. Trousseau has exaggerated the difficulties of introducing a tube into the larynx. I have suggested this operation in cases of apparent death in new-born children; it was abandoned as too difficult, but I have proved that it was, on the contrary, always easy.

In M. Loiseau's process, there is only one thing of which I have not spoken, that is, the metallic ring. But the cork which is placed between the jaws, the linen with which the finger is enveloped, &c., supply the same object. Besides, the operation which the author of the memoir proposes, is in itself bad; the larynx is swept out, and that being done the tube is withdrawn. What follows as the result of the medication, which is almost always caustic: the laryngeal mucous membrane becomes swollen, and the symptoms are increased in severity. In fact, while I would join in voting the thanks of the Academy to M. Loiseau, I think still, in a scientific point of view, it would have been well to submit this memoir to a more severe scrutiny. It contains nothing new, and is not equal in value to tracheotomy.

M. Trousseau.—There are several points in M. Depaul's speech to which I must reply. It is very apparent that everybody knows the tube of Chaussier and to name it was considered sufficient evidence that I did not consider it a novelty. Its introduction into the larynges of new-born children is very easy. I have not spoken of the difficulties in this respect; it is in children of four or five years that it is found extremely difficult. They cut the corks, displace the pieces of wood which are made use of, and bite the finger, although enveloped in cloth. With the ring, however, these difficulties and dangers do not exist. As to the danger resulting from the tumefaction of the larynx consecutive to the action of caustics, I do not admit it. The stratifications of false membranes added one to another, contract the calibre of the larynx; the action of caustics cer-

tainly does not increase them. In addition, caustics applied directly upon mucous membranes do not tumefy them in any manner, of which you can be convinced any day by observing the action of the nitrate of silver.

I believe, however, with M. Depaul, that the operation of tracheotomy is preferable. All are not of this opinion. In England, this operation is ignored by both surgeons and physicians: at London, at Liverpool, at Glasgow, the operation of tracheotomy is never performed. The operation of M. Loiseau, accepted by those who do not favor tracheotomy, may render very great service. This is all that I wished to say.

M. Depaul.—It seems to me that M. Trousseau has forgotten what he said in the commencement of his report. He said that the process of catheterism of the larynx, as proposed by M. Green, was very difficult, even upon the cadaver, but I maintain that nothing is easier than this catheterism for those who have performed it a certain number of times.

M. Trousseau.—I allow that this catheterism is very easy in newborn infants, but I still insist that it is very difficult in older children and in adults.

M. Piorry.—The operations upon the larynx for diseases which are most frequently only secondary, are perhaps too much esteemed. In these cases the operations only shorten life, for they are useless in curing the primitive lesion. This manner of proceeding depends upon the fact that the diagnosis is not sufficiently accurate. The operation of M. Loiseau, which, at least, is exempt from the dangers of tracheotomy, is preferable to this last. Whatever means may be employed, some mucosities will remain in the larynx, which may bring on symptoms of suffocation. This is an important consideration, upon which nothing has been said. If these mucosities can be sucked out and the air-passages be relieved of them, that in every respect would be a great deal better.

M. Trousseau.—Everybody knows, since the publication of M. Louis, that chronic laryngitis is complicated with pulmonary tubercles. It is also well known that it can be consecutive to syphilis. This is not the question; it is that of croup. But in the case of chronic laryngitis even, if the suffocation is threatening, it is proper to operate. Patients ask to live; and when they can be kept alive, if it is only for a short time, the physician has no right to let them die. We arrest a hæmorrhage in a woman who has an incurable cancer of the womb, &c. As to the mucosities of which M. Piorry speaks, that is not the ordinary case in croup. The autopsy in these cases does not reveal any bronchial froth. The remark of M. Piorry is applicable, then, only to chronic laryngitis, and we are not now speaking of it.

M. Velpeau.—Is it possible to take everybody's part and yet speak the truth? From what has been said it follows that the protecting ring of the index finger belongs to Dieffenbach, the tube to Chaussier, and the process, in its totality, to M. Depaul. What remains, then,

to M. Loiseau? To him belongs the merit of having called attention to the subject. Thanks to his memoir, we know that croup can be cured without operating for tracheotomy. That is a great deal.

M. Trousseau.—M. Velpeau is a demolisher. Several times have I already been a witness of the pleasure which he takes in pulling down. He wishes to take M. Loiseau's part, and yet leaves him nothing. M. Velpeau is the most learned of the surgeons and physicians of the Academy, and yet he did not know of the discovery of M. Dieffenbach. Neither did M. Loiseau know of it. Besides, is not everything which is invented spoken of more or less explicitly twenty or a hundred years beforehand? Were not cardiac complications in rheumatismal affections spoken of before M. Bouillaud? Had not albumen been seen in the urine before Bright? M. Bouillaud and Bright are none the less the true authors of these great discoveries.

M. Velpeau.—M. Trousseau raises against me a question of professional morality——

M. Trousseau.—Against you, M. Velpeau. O no! that is impossible.

M. Velpeau.—It would be easy for me to prove that M. Trousseau is the demolisher, since he refuses to the true inventor that part which is due to him. For my part, I say it is not demolishing, the giving each one his own part, and that of the inventor to him. The ring of Dieffenbach was known because it was known to the commission. To say that M. Loiseau did not know of it, is making a merit of his ignorance. I believe the operation recommended by M. Loiseau is a good one. While diphtheritis is at the opening of the air-passages it is curable, and M. Loiseau has ascertained that it is not difficult to carry medications into the larynx.

In connection with this discussion we give this month some of the editorial remarks in the leading Parisian medical journals, reserving our own for another time. M. Jules Guérin, the learned editor of the *Gazette Médicale de Paris*, after discussing in the number of that journal for August 29, the value of tracheotomy in croup, which he considers a mechanical expedient and not a remedy against the disease, thus continues:—

But we repeat we have a moderate confidence in the employment of a mechanical expedient against a suffocation which is not mechanical but morbid, the cause of which persists after as before tracheotomy. Is the laryngeal cauterization proposed by M. Loiseau in this category? Certainly not. It is at the same time a mechanical and a curative means. It is not necessary to explain the mechanical means; it is understood from the first, and it has succeeded. As a therapeutical means it merits a more serious attention. What is the relation of cauterization to croup? It is a powerful energetic means, the only one which up to this time has really succeeded.

When the disease is limited to the upper part of the air-passage, we cauterize, and all practitioners agree that this means is truly of great benefit. What is laryngeal cauterization other than carrying beyond the limits of ordinary cauterization a remedy recognized as good, efficacious not only against the essence of the disease itself, but also against the pathological secretion. Laryngeal cauterization is, then, in this respect, much superior to tracheotomy. Experience seems to have already confirmed these theoretical hopes,—future experience will say much more of it.

The *spirituel* editor of the *Union Médicale*, M. Amédée Latour, in its issue for August 27, after giving a brief synopsis and historical statement of the paper, report, and discussion, thus writes—first expressing his doubts as to the claim of M. Loiseau to the invention :—

It is none the less certain, however — and this is important in a practical point of view—that before the paper by M. Loiseau, reported yesterday to the Academy, no one thought of attacking croup directly in the larynx by the natural passages, and with the exception of cases of asphyxia in new-born children, no one employed the simple and easy method of carrying a sound and caustic into the larynx for the purpose of checking the false membranes ; that no one, as M. Loiseau has done—MM. Trousseau and Blache being witnesses,—has proved the possibility of curing true croup by this means: and we esteem this as great a merit as that of inventing a canula, a ring, or a sound, and it is with pleasure that we render this homage to our ingenious and modest confrère of Montmartre.

And thus M. Dechambre, the conscientious and liberal editor of the *Gazette Hebdomadaire*, better informed on the subject, calls attention to the fact that this process has been employed in America:

For some time they have pretended in America to sound easily, not only the larynx and the trachea, but the right or left bronchial tube at will ; not only with a flexible tube, but also with a whale-bone staff armed with a sponge ; not only for insufflating the lungs, but for carrying medications upon the whole extent of the air-passages, in different diseases, in œdema of the glottis, in croup, &c., for cauterizing the larynx or the trachea, for injecting medicated liquids into the pulmonary cells. The *Gazette Hebdomadaire* has translated or analyzed papers upon this subject, published in America and England ; it has been careful in making the most express reserves both upon the possibility of the operation itself and its practical value ; but all these reserves are an additional reason for desiring that these experiments should be repeated by us with that attention which the authority and the honorable position of our American *confrères* commands. M. Loiseau, anticipated as it is seen in every particular, gives us, however, a useful example, and his merit will still be great if he succeeds in introducing in common

use a practice worthy of more attention than it has yet received.—*Gazette Hebdomadaire*, August 27.

And again, in the number for the following week (September 4), in a long article giving a detailed account of the instruments employed and the method of operating, the editor states that

M. Loiseau affirms that he penetrates with these instruments much farther than the larynx, even to the bifurcation of the trachea, as Dr. H. Green also pretends to do.

It is seen that this is a repetition (extended and perfected) of the American processes, so much the more remarkable that it dates, in the knowledge of many persons, from a period when the labors of Dr. H. Green were not known in France, and perhaps were not commenced.*

We do not wish to claim the priority for the French physician, the date of publication alone constitutes the right; and as we said in the last number, M. Loiseau has been anticipated in every respect; but we insist upon this coincidence, because it is of a nature to call the attention of physicians to it, even of those who, like us, do not as yet consider ourselves as authorized in placing among the means of usual practice in croup and other affections of the larynx, trachea, or bronchial tubes, the direct catheterism or cauterization of the air-passages.

To this is added the following note :

Dr. H. Green, as we have said, employs for the catheterism of the air-passages only a whalebone staff armed with a sponge, which he charges with a caustic solution, or a sound in caoutchouc, by which he injects medicated liquids. Some time since one of his family (a nephew,† we believe) being in Paris, had M. Luer make, upon a small scale, for the purpose of performing the operation of the catheterism of the larynx, one of those small articulated mandrins, which is supplied with a spring, which M. le docteur Blanche introduces into the œsophagian sound for the forced alimentation of the insane, and which has the property of curving according to the pressure made upon a ring at its free extremity.

* Dr. Green's first case was in January, 1840, when he entered the larynx with a sponge-armed probang.—See *Treatise of Bronchitis*, by H. Green, M.D., page 69.

† It was in July, 1854, when the present junior-editor of the MONTHLY (a brother-in-law, not a nephew, of Dr. Green) was in Paris, that experiments were made by him at Clamart, and in presence of Prof. Trousseau, at Hotel Dieu, to demonstrate the possibility of laryngeal medications. At that time the articulated mandrin and the tube were used, and these were the initial experiments which suggested to Dr. Green the more extensive and conclusive ones reported by him to the New York Academy of Medicine. It is to be regretted that this act was not mentioned in Dr. Green's paper, as would have been just.

— With the season when the leaves fall, and fruits ripen, comes the student of medicine, who seeks his instruction and his diploma from our colleges. For a month the note of preparation has been loud, and the advent of students frequent. To judge from present appearances, the number of medical students in our city will exceed that of any other year. The preliminary courses in our several schools have been largely attended, unusually so, and greater efforts have been made by their respective faculties, to render the coming Winter a more profitable one to the student than ever before. The hospitals, too, are vying with the colleges in the instruction which they afford, and college and hospital combined, New York this Winter will furnish more scientific and practical instruction than can be obtained in any other city this side the Atlantic. While we write, the schools are in successful operation, their preliminary addresses having been delivered, and a formal opening given.

The first in the order of these preliminary exercises, was that pronounced by Dr. J. W. Francis, in the Theatre of the new Pathological Building at Bellevue Hospital, Monday noon, October 19. It was historical, reminiscent, and given in the peculiarly felicitous and rotund style of the orator, than whom there is none who can speak so well and so understandingly of the glories of the Faculty of New York past and New York present.

We take from the *Daily Times*, of the 20th inst., the following report of Dr. Francis' Address, which was delivered without notes, and with a warineth and earnestness which would do great credit to a much younger orator :

“He commenced by tendering a hearty greeting to the students, as coming from all parts of the Union, North, South, East, and West, and expressed his gratification at the fact, that in their medical schools no sectional distinction was ever recognized or tolerated. He inquired for what purpose they had visited New York, and answered the question by saying they had visited this metropolis because of its vast powers, great capabilities, and great enlightenment ; because it was a pattern and an example in a thousand ways to the Union at large ; and because it had been ennobled always, from its very foundation, by the dignity, the excellence, the learning, and the services of its medical faculty. He dwelt at considerable length on the claims of New York over all the other cities of the Union, to historical precedence in the establishment and development of medical and chirurgical institutions, and quoted copiously, but in a general way, from the history of the colonies, to show that in the very earliest period of her provincial existence, distinguished medical practitioners were to be found in New York City. In those remote times, when

New York was under the sway of the Dutch, several of the most eminent of the pupils of Boerhaave, who had obtained their degrees from the University of Leyden, practised physic here. Among the most celebrated of these was Johnston. When the English supplanted the Dutch, we found that one Slaughter was made Governor, and he being a reckless debauchee, drank too much wine and brandy one night at a carousal, and exploded. His body was dissected, and that was the first dissection of a body by Dutch doctors that ever was made in these colonies. Among the four medical men by whom that dissection was made, was one named Kørsted, a descendant of whom now keeps a drug store on the corner of Spring street. In about 1793 or 1794, a pest house, meant for the reception of deceased emigrants, was established. Afterwards, a great Almshouse was erected in the Park, which, after standing for 70 years, was superseded by another and larger Almshouse, better calculated to meet the increased wants of the foreign emigration and the residents of the city. This, a few years since, was burned down, and, as it had soon proved inadequate to supply the demands made upon it by the constantly-increasing foreign population, a desire was created on the part of our municipal authorities, to start an Almshouse out of town. That Almshouse was the building they now saw before them. Whatever might be said of the extravagance or indiscretion of our municipal authorities in some things, it was but justice to them to say that they had never been backward in making provision for the afflicted, the disconsolate, and the sick.

The lecturer proceeded to treat of the greatness and utility of medicine as a science. He declared that next to mathematics it was the most certain of all knowledge, and its glory was daily increasing. He denied to Bacon the credit of having founded the inductive system of philosophy, because that had been pointed out 4000 years before by old Hippocrates. He alluded to the great advance that had been made in medical knowledge since his youthful days, but counseled his hearers not on that account to condemn the past, for he regarded even Avicenni and Paracelsus as prodigies, notwithstanding their many errors. In speaking of the superior opportunities afforded by New York of acquiring a practical familiarity with the duties and responsibilities of the profession, he said that the laws of contagion and the principles of quarantine had been elaborated mainly by members of the medical profession in this city, that they had furnished more monographs and distinct works on the practice of physic, than were produced by any other city in the Union, and that in opportunities for studying diseases of the mind, and in the practice of obstetrics, New York afforded material which could not be found elsewhere. After alluding in terms of high commendation to the successful course of treatment of female diseases initiated by Dr. Sims, he expressed the hope that they would live to see the day when a great female hospital would be established for the relief of all those sad afflictions which occur in the parturient state, and concluded by some general remarks which, when he resumed his seat, were followed by loud and prolonged applause."

Dr. James R. Wood then announced, on behalf of the Medical Board, a series of clinical lectures, to be commenced immediately, and continued during the Winter—this being the first systematized series of clinical lectures ever delivered in this country.

Each of the following gentlemen will lecture once a week at 1½ o'clock in the theatre of the pathological building :

Prof. Alonzo Clark,
Prof. B. F. Barker,
Prof. J. T. Metcalfe,
Dr. George T. Elliott, and
Dr. James R. Wood.

We deprecate some of the remarks made by Dr. Wood, alluding to medical politics and medical cliques. That is initiating the student too early into the unfortunate weak point of our profession. They will find it out soon enough without having it put under their noses at the commencement of their medical studies. We have a sympathy for the students, for they are to be our future physicians and teachers. They are to be the future representatives of our profession, and for that reason we would have them taught their profession and charity towards each other. At the present time there is a great journalistic tournament upon medical education. We go in for *education*, and that the very best ; and, if we thought Philadelphia, or any other city, offered better resources, better teachers, better opportunities to the student than New York, we should unhesitatingly say so. From our own personal experience, we, on the contrary state, that no city in this country can equal New York in any or all these particulars, and we believe that medical students throughout the country will soon find this out, and will flock to New York. It is for this reason that we deprecate the merest allusion to medical politics. The Medical Board of Bellevue Hospital has inaugurated a new era in medical instruction. Its members can well afford to lay aside any ideas of cliqueism which they may have—which word by the way has a strong odor of envy, jealousy, backbiting, and bickering, unworthy the attention of a gentleman, much less a physician—and stand firmly and surely upon their own merits. The generous heart of youth will admire them the more for it ; the enthusiasm of the ardent young man will give them greater praise, and in their own consciences they will reap a rich reward. Teachers should be charitable towards each other, only evincing a stern rivalry in their exertions for the benefit of their pupils.

There is too much talk of cliques in New York, so much so that it has become a byword and a reproach abroad. Until we talk less

of it in our own circles, we cannot expect to have the faculty throughout the country respect and honor us as we deserve, nor need we hope to see our schools prospering as they should. Let them unite their efforts, and they will succeed beyond a peradventure ; divided, they will fail, as they deserve to. We make these few remarks in hopes that the Medical Board of Bellevue will, in prosecuting the admirable plan already commenced, keep clear of any connection, even in thought, with medical politics, relying upon the strength of their own ability for that success which is sure to follow.

On the evening of the same day *Prof. St. John* delivered the introductory lecture at the *College of Physicians and Surgeons*. We were not present, but hear it spoken of in the highest terms of praise.

Upon the same evening and at the same hour *Prof. Valentine Mott* performed the agreeable duty of welcoming the class to the *University Medical College*, and traced, for the benefit of his hearers, the progress of medicine through different ages, illustrating with short biographical sketches, the characteristics of some of the leading men in all countries who have contributed to this progress. His address was listened to with great attention by a large concourse of medical men and students, and elicited much applause.

The following evening (October 21,) *Prof. J. M. Carnochan* pronounced the introductory at the New York Medical College. His subject was the *Study of Science*. Although very abstruse for such an occasion, the lecture was listened to with attention.

—*Peaslee's Histology* has just been received, and is on sale at all the medical bookstores. It is an octavo of 620 pages, and is illustrated by 434 excellent wood-cuts. It will be noticed at length in the next number of the MONTHLY.

—The following anecdote is told by the Paris correspondent of the New York *Daily Times*, and is too good to be lost :

“A friend told me a day or two ago a good anecdote of Philip Ricord, the distinguished surgeon of the Hospital du Midi. Ricord was sitting in one of the orchestra stalls at the Grand Opera—it is not often he gets time to go there—and all at once when the house was still, and in the midst of one of the songs of a principal barytone, he commenced cheering in the most approved style. Everybody looked at Ricord, but did not understand. As the singer grew warm and commenced gesticulating with vehemence, Ricord's enthusiasm augmented, and other gentlemen at his side, feeling the infection, followed his example and applauded also. Ricord, turning around,

briskly wanted to know what they were applauding for? "To tell you the truth, "Sir," was the reply, "it was partly from your example." "But you don't know why I applauded?" replied Ricord. "I was applauding the mrrvellous effects of the Iodide of Potassium!" The singer was one of Ricord's patients, who had a stiff elbow joint, for which he had been taking for some time this remedy, and it was when Ricord saw the arm unbend itself in the gesticulations of the singer, that he broke out into such enthusiasm. His neighbors remained silent for the rest of the evening."

Milfoil (Achillea Millefolium, Yarrow) as an Emmenagogue.—The popular use of the infusions of milfoil in suppression of the menses, suggested to Dr. Ronzier-Joly, of Clermont, the idea of experimenting with them in his practice. The results which he has obtained in a great number of patients, to whom he has exhibited it during the last two years, to the exclusion of all other medication, establish in an evident manner its emmenagogue properties. A strong infusion was given in the morning before breakfast, and repeated three or four days in succession pro re nata. When the suppression was produced by a transient cause, by cold, or by a moral emotion, for example, M. Ronzier-Joly, has witnessed the menstrual flux reappear under the influence of this remedy, and sometimes even a half hour only after the administration of the first dose. A condition which it is important to observe in order that the effects of the milfoil may be the most favorable, is to wait until the regular period of the appearance of the menses has nearly passed away, or that the signs announce a fluxionary tendency towards the uterus. The infusion of milfoil continued for several days, when the menses have not appeared, has produced no bad effect upon the health, nor has it caused any unpleasant symptom in those women to whom it has been given when they were in the first period, of a unsuspected pregnancy.

A few observations, cited by the author, tend to prove that milfoil is not only efficacious in suppression, from accidental causes, but that it can also be employed: 1. For favoring the flow of the menses when they are in insufficient quantity. 2. To induce their appearance when they have ceased to appear under the influence of a diathesis, of a fluxionary state towards the superior parts, or from a poverty of blood; 3, and finally, for causing the suddenly checked lochia to reappear. The same medicament does not seem to have had any effect upon those young girls in whom menstruation establishes itself with difficulty, and presents irregularities in its first manifestations.—*Revue de Thérapeutique.*

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ESSAYS, MONOGRAPHS, AND CASES.

The Influence of the Gulf Stream upon the Summer Climate of the Atlantic Coast of the United States. Read before the Montreal meeting of the American Association for the Advancement of Science. By JAMES WYNNE, M.D.

The object of this paper is strictly hygienic. There are few medical men, engaged in any considerable practice, who have not under their charge patients whose diseases require a change of climate, as one of the most efficient modes of relief; and it not unfrequently happens that the proper selection of a residence is a matter of such importance, as to constitute the entire difference between a favorable and an unfavorable termination of the disease. Any light, therefore, thrown upon this subject, which will enable the medical man to indicate the choice of a selection with greater confidence, as to the absolute condition of the climate, will, I am convinced, be kindly received by those members of the Association who are connected with this profession, and may not be unwelcome to those who are engaged in other pursuits.

The recent examinations conducted by the officers under the direction of the Superintendent of the Coast Survey, have shown that the bottom of the Atlantic Ocean presents a range of mountains, pursuing a similar course to the Apalachian chain, some distance back from the coast. These examinations have not yet been completed, but so far as they have been prosecuted, they clearly demonstrate the continuity of this chain of submarine mountains, and its general course. The effect of this configuration of the bottom of the

ocean over the temperature of the water, is clear and unequivocal. The whole extent of this influence has not yet been determined, but thus far it shows that the Gulf Stream is not one uniform mass of warm water, pursuing a northeasterly course along the coast, at a pretty uniform distance from it, but a series of bands of warm water, interspersed with colder ones. These have been laid down by Prof. Bache, with admirable precision, in his map delineating the distribution of the temperature of the Gulf Stream. An underlying Polar current of cold water, even in the more southerly explorations, is likewise clearly established.

The position of this mountain chain, in affecting the temperature of the air along the coast, as well as the water overlaying it, has been as clearly demonstrated. Lieut. Maury, in his pilot-chart of the North Atlantic, has recorded the direction of the wind, for each month in the year, with great accuracy. The information contained in his chart is taken from the most authoritative sources, and, in some instances, extends back as far as 1810. This chart subdivides the ocean into squares, of five degrees each of latitude and longitude, and the monthly observations, within each subdivision, are made to extend over this surface. For the purpose of the present inquiry, subdivisions of a single degree would have afforded greater definiteness, but the facts deduced from the chart, as it is, are of the highest value. As our inquiry is confined to the summer months, when invalids in search of health, or those who are well, in pursuit of a more temperate air than is to be found in the cities, or even in rural districts, visit the sea-shore, the deductions from the chart will be confined to the months of June, July, and August, and to that portion of the Atlantic stretching along the sea-coast.

In the subdivisions between latitude 30° and 35° and longitude 70° and 75° , embracing the sea-coast from St. Augustine, in Florida, to Cape Hatteras, in North Carolina, there were made ninety-nine observations of winds, in the month of June; of these forty-one, or nearly one-half, were from the south and southwest. In July eighty-four winds were noticed, of which fifty-two came from the south and southwest; in August, one hundred and thirty-eight, of which sixty came from the south and west.

In the subdivision embracing latitude 35° to 40° and longitude 70° to 75° , extending from Cape Hatteras to Cold Spring, N. J., three hundred and fifty winds were observed in the month of June, of which one hundred and forty-three were from the south and southwest; in July, three hundred and ten, of which one hundred and

sixteen came from the south and southwest ; and in August, three hundred and sixty-six, of which one hundred and twenty-three were from the south and southwest.

In the subdivision between latitude 40° and 45° and longitude 70° and 75° , embracing Long Island Sound and the southern expanse of the New England coast, in June two hundred and thirty-one winds were noted, of which one hundred and eight came from the south and southwest ; in July, three hundred and eight, of which one hundred and sixty were from the south and southwest ; and in August, one hundred and eighty-three, of which sixty were from the south and southwest.

These are the facts. The deductions from them are important. It appears, from these observations, that of the prevailing winds in the summer months, never less than one-third, and, in many instances, one-half, come from the south and southwest. It must be remarked that the winds noted were sailing winds, with some degree of force, and not the slight, ruffling breeze which, although insufficient for the purpose of rapid sailing, is yet most grateful in its effect upon the health and comfort of those so circumstanced as to come within its range. The usual direction of this lighter breeze on the Atlantic, in the summer months, is from the south and southwest, directly over the current of warm water composing the Gulf Stream. The winds from this quarter are, for the most part, gentle, balmy, exhilarating, and peculiarly happy in their influence upon the human body ; those from the north and east, on the contrary, are violent, raw, and depressing ; while the former should be courted by the invalid, the latter should be as sedulously avoided.

It by no means follows that the wind on shore is the same as that upon the ocean. A very slight obstruction, as an intervening range of hills, or indentation of the coast, may leave any particular situation in calm, or subject to the influence of a less grateful wind, while the whole surface of the water is swept by a delightful air from the south or southwest. An example of this may be given in the Highlands of Navesink, situated a short distance from New York, and immediately behind the light-house on Sandy Hook point. These Highlands, whose sides are covered to the water's edge by a rich growth of vegetation, and are highly picturesque in their effect, are shut off from the southwesterly ocean winds by a small promontory, the effect of which is to render the air in the sheltered localities calm and oppressive, while the sandy point directly in front, and scarcely more than a stone's throw distant, is agitated

by a balmy and refreshing breeze. Sachem's Head, and the contiguous town of Guilford, furnishes another illustration of this fact. The promontory termed Sachem's Head, which juts far out into Long Island Sound, is visited almost daily in the summer by the southwest trade wind, which begins about ten in the morning and continues pretty regularly during the day, unless intercepted by some more violent wind. It not unfrequently happens that while this balmy ocean breeze is playing over this promontory and reducing the temperature below 80° , the town of Guilford, but a few miles inland, is subject to a land breeze, and exhibits a range of temperature between 90° and 95° .

The traveller over the New York and New Haven and New London Railroads, which pursue an easterly course along the Long Island Sound, cannot fail to remark the perceptible difference almost always observed in the temperature after leaving New Haven for the east. However exalted the temperature may have been, or oppressive the condition of the atmosphere between New York and New Haven, he is almost certain to be met by a delightful ocean air from the southwest, a few miles east of New Haven, which accompanies him on his passage to New London. This is due to the configuration of Long Island.

Near New York, the northern shore of Long Island rises into elevations of greater or less extent, but sufficiently so, at most places, to intercept the sweep of wind from the ocean on its southern border. These elevations gradually diminish in an easterly direction, until a point is reached a few miles east of New Haven, where the whole island becomes flat and sandy, and but a few miles in width. This low plateau offers but slight interruption to the progress of the southerly ocean winds, and allows them to play over the surface of the water in the Sound itself, and fan the opposite New England coast.

The islands off the coast of South Carolina, as well as the coast of North Carolina, Virginia, and New Jersey, have a greater or less south and southwestern exposure. Within these limits are found Old Point Comfort, Cape May, and Long Branch, which have great celebrity as sea-side places, and attract large numbers of visitors. Each of these places is subject, however, to the depressing effects of the northeasterly gales; the more southerly points are less affected from this cause than the more northern.

The whole stretch of Long Island on its southern side—which is at present, with but few exceptions, little better than an inhospitable sand bar, drifted up from the waves of the ocean—that portion

of the Connecticut coast to which I have alluded east of New Haven, as well as Rhode Island and a part of Massachusetts, enjoy in the highest degree the advantage of exposure to the south and southwest, and are at the same time best protected from the winds from the northeast. Newport, with many disadvantages, not the least of which is the compactness of its houses and their almost total exclusion in the old part of the town from a sea view, enjoys a world-wide reputation as a sea-side residence, for which it is wholly indebted to the salubrity of its air, derived from its sheltered position from the northeast winds on the one side and its free exposure to the southern trade wind upon the other.

It is not the purpose of this paper, however, so much to point out individual localities, as the general principles upon which the sea side climate of the Atlantic coast may be determined, a knowledge of which will enable the practitioner or intelligent traveller to select that locality best adapted to the particular case. As a climate for invalids that is most desirable which furnishes the greatest protection from the depressing northeast winds, and the fullest exposure to those which come heavily laden with health-restoring qualities from the balmy southern ocean, borne along the current of the Gulf Stream. Many sheltered positions may doubtless be found upon the coast south of Long Island, uniting many if not all of the advantages already pointed out, which it is earnestly to be hoped will be discovered and improved. The advantage of sea-side resorts in such positions as to render them available for those whose occupations or means do not permit them to take long journeys, cannot be too highly estimated.

On Rheumatism of the Epithelial and Non-Epithelial Fibrous Tissues : Its Sequence to Scarlatina and other Exanthemata. On Rheumatic Gout, Chorea, &c., &c. By H. P. DEWEES, M.D., New York.

(Concluded from page 281.)

The secondary abscesses following rheumatism, result in most cases, from local phlebitis, or from the detention of minute fibrinous plugs arresting the circulation in the small vessels. Sometimes, the breaking down of larger plugs with interior pus, causes irritation to be established, with more or less serous infiltration into the adjacent cellular tissue, the abscess varying according to the local arrest. The limits of this paper, however, will not allow more than mention of these conditions. I will merely refer to the pathological facts of

the vessels becoming inflamed, and subsequently thickened or plugged up, so that more or less perfect closure ensues, with resolution into abscess, or into mortification, either local, or at a distal point, if the large vessels are arrested in their circulation. The nature of the gangrene, whether moist or dry, will in great measure depend on the perfection of the closure. Sometimes, however, the surrounding parts become so agglutinated by the adhesive action of repair, as to render the neighboring tissues anatomically unrecognizable, and totally unfit for their purposes of secretion or of motion. If such deposits take place in the lungs, the damage is the same, and in this way vomicae may arise, perfectly independent of tubercular origin, a plug of fibrin not as large as the head of a pin arresting the local circulation, with consecutive destructive changes ; so that rheumatism, by its results, may become the parent of evils, equal, in their destructive tendencies over life, to tubercle in its highest state of development and disintegration. If the vessels of the brain become the seat of arrest, its nutrition will be more or less interfered with, and local atrophy or softening may ensue, with lesions of motion, or of intelligence, as resultants. And thus paralysis and imbecility may follow in the train of that so-called "simple rheumatism."

The cases of paralysis after rheumatism of the spinal investments are not unfrequent. On dissection, this apparently high inflammatory action, so complete in its functional arrest as even to eventuate in death, cannot at times be recognized by the eye, as regards structural change. And the same can be said of it when seated in the serous membranes of the brain ; the so-called inflammation being a specific poisoning of the very centres of life, leaving neither trace nor residue.

In the gouty the blood poison is not always exhibited by the "big toe" attack, with increasing demand for flannel. The skin may become the beacon of its approach. Lichenous, herpetic, or other eruptions, painful to bear and obstinate to treat, may not only mask the attack, but for a long time keep it in "masterly inactivity." And the same, at times, may be said of the poison of rheumatism.

It would appear, from reasoning on the facts adduced in the study of rheumatism and gout, that if the lactic acid formations are in excess, either by over-generation or by non-elimination, that an attack of acute rheumatism is apt to follow, and especially after the sudden drying up of these eruptions. If this does not take place, but the skin disorder recedes slowly, and there is apparently but a small excess of lactic acid retained, the rheumatic pains are irregular, flying from spot to spot, or the joints become more or less stiff, not

from any difficulty in their opposing surfaces, but from muscular inability to apply the necessary force towards movement. If, on the other hand, the uric acid is not expelled, or is generated in excess, gout is the frequent successor. At this moment I have two cases that would apparently verify these views.

The white fibrous tissue is the chief texture affected in simple acute or true fibrous rheumatism, either as it occurs in the formation of the ligaments connected with joints, or in the membranous form covering tendons, or in the aponeurotic expansions of the large muscles, as the fascia lata of the thigh, with its deep prolongations, or in the cranial dura mater, sclerotica, &c.

It will be necessary to bear in mind that the sheaths of tendons—the bursæ (sometimes called the bursal synovial membranes) between the tendons of muscles, between tendons and bones, and between the projecting parts of bones and skin, as the olecranon, &c., *have no epithelium*,—although in function they resemble the true synovial membranes, yet they differ from them anatomically and in exact analysis. But this is not the case in the *bursæ communicating with the synovial capsules*; these, as well as the articular cartilages, have an epithelial layer. These anatomical peculiarities are to be remembered, as they form the distinctive features in the pathology, diagnosis, and treatment.

Although the synovial membranes are not so prone to the effusion of plastic lymph, as are the serous, yet the bursæ are at times found not only traversed by adhesive bands, but even completely obliterated. The movements in such conditions are greatly impeded, but not so completely, as when the sheaths of the tendons are in a like manner affected, the free play of the attached muscles being rendered more or less impossible.

The fact is not to be lost sight of, that a large proportion of the urea is derived from the disintegration of the body tissues, especially of the gelatinous and albuminous orders, independently of the introduction of nitrogenized food into the system. It is chiefly, or at least frequently, in rheumatic disorders which are the offspring of deranged secondary assimilation, that urea forms so fatal an agency, although nervous depressions and coma arise in non-rheumatic diseases; as those of the kidney, or from puerperal causes, &c. Indeed, in many diseases involving the serous membranes with kidney difficulty, urea forms a dread element, whilst, by its non-elimination, or selective error, it lies at the secret cause of disturbance, not only in the sclerotic membranes, but also in many of the diseases of the aqueous and vitreous humors of the eye. This is now only alluded to, and may form the subject of another paper, or will serve to call

notice from other medical observers. Not less important would be a series of observations as regards the action of oxygenated remedies in a high lithic condition of the system, as the uric acid might thus be converted into urea. In the gouty this change of uric acid into urea might take place by the action of oxygenated remedies, and suppuration of the synovial capsules and serous membranes ensue, as in rheumatism, whilst arachnitis and coma form the modes of death, especially if kidney disorder exist at the same time. In other cases—those in which death is sudden, and the organic lesions are inappreciable or insufficient to account for the fatal termination—the urea, by a reàrrangement of its elements, may be converted into cyanate of ammonia, thus poisoning the centres essential to life.

It is not always that in rheumatism there is a *deficiency* of surface excretion, nor in gout that the kidneys are chiefly in fault. The *materies morbi* may be generated by the imperfect composition and quantity of the blood itself, so that the *tissues of selection* cannot be properly nourished,—their structural assimilation being more or less destroyed.

The excretion of soda in tophaceous deposits or articular incrustations, does not take place in rheumatism as in gout ; it is, however, partially witnessed in the hybrid affection, viz : rheumatic gout. This in part, may be accounted for ; as in the gouty the primary digestion is disturbed, whilst in the rheumatic the secondary assimilations are more at fault. Hence, the first are apt to use soda as a corrective of acidity, or “to bring the wind off the stomach ;” whilst, probably, from the inactivity of the liver, the alkali from the salt used at table is not called on in the formation of bile, and thus collects in the blood. In rheumatism, however, we have at times such fusion of the immediate tissues about the joints, rendering anatomical division almost impossible, that it would seem by the excessive attraction of lactic acid to the parts, it possessed the power to act as a solvent of the elementary fibres, as I have found it for many years useful for that purpose in dyspepsia of animal substances.

It is well known that rheumatism more frequently attacks the weakly, the intemperate, the irregular in diet (and especially if of unwholesome nature), those who may be exposed to vicissitudes of temperature, or who long labor mentally or physically with insufficient food, or under anxiety and mental depression. But the strong, well-fed and able-bodied, young or old, are liable to its sufferings ; in these, if the exanthemata, or accident, have not engrafted a kidney vice, and the blood is not overloaded with nitrogenized products, the attack will be of the simple inflammatory type, affecting the non-

epithelial fibrous structures or surfaces ; whilst heart disease, and especially of the mitral valve, will be infrequent. On the other hand, if kidney disease, accidental or exanthematous, be present, then structures more important in their uses and anatomical arrangements, viz : the interior capsular parts, the heart and the arachnoid serous membrane, &c., are liable to become affected, whilst the prognosis is against the patient, either immediately or remotely. Delirium or coma, more or less profound, is the distinguishing feature in these cases. In the others, where the exterior cranial fibrous dura mater is attacked, although the sufferings are intense and the venous suffusion alarming, yet the chances to the patient are more favorable, and delirium and coma do not follow in so fatal a train if present, unless the effusion be great ; and even here, the disturbances are more of position than of nutritive function.

The rich or the pampered are not, however, the sole proprietors of the gout ; the poor, the half-starved have also their gout ; it is the offspring of their very poverty. Dives, introduces into his blood from without the great sources of his evil ; whilst Lazarus produces a condition almost similar, by the rapid disintegration of his own tissues, loading his ill-fed blood with uric acid and other compounds, from the wear and tear of his system. There is no compensation by proper supply of food ; and the kidneys and other emunctory organs are too enfeebled, though, perhaps, not diseased, to extract the uric acid or urea from the blood. These cases, though rare, yet take place—it is the gout of the impoverished. They are, in general, inebriate from necessity and from physiological instinct ; their systems cry aloud for carbon,—for liquor,—that the oxygen of the air they breathe shall not burn up their pittance-saved bodies, but attack the free carbon and hydrogen of the alcohol, and leave in respite their meagre frames. It is the gout of demand and not of supply. And here we find a vivid example of the fact above stated, that the tissues suffer disintegration, or death, not only from deficiency of nutritive supply, but from defective quality of the blood. In the gout of the impoverished, nitrogenized food—the bane of the rich man—and those remedies having the power to retard the decomposition of of tissue, as tea, coffee, hop, &c., must be trusted in ; and thus the waste of the system being restrained, the blood will not be surcharged from the structures themselves, and the local disintegration will be arrested, and the organs return to their uses ; but mostly with deformity as an index of their past trials.

The urinary deposits, both in gout and rheumatism, sometimes

mask the condition of urine as secreted by the kidney—the uric acid formations being disguised by the alkaline, or earthy phosphates. This is chiefly owing to chronic vesical irritation or inflammation, the muco-pus acting on the urea, and converting it into carbonate of ammonia, which precipitates the alkaline salts. It is thus that the condition of the urine may be masked by the presence of pus, or of a mucoid body, in its route from the kidneys. Indeed, the highly acid state of the secretion may be the very cause by which the bladder may be irritated. The prognosis in these cases depends on the nature of the bladder or kidney irritation, the possibility of calculus formation, the recent or long previous existence of the affection, &c.

The space allotted me is nearly exhausted, and will necessarily oblige me to condense the chief features of treatment, with a running statement on some other points. From the preceding views the treatment almost explains itself. In the acute rheumatism of the robust, at whatever age, the seat of attack is in the white fibrous tissues, the fever high, attended generally with great sweating, the pain and swelling intense, but *greater than when the epithelial fibrous tissues are affected*. Venesection is rarely called for, though by some regarded as not only a mitigator of pain, but as instituting a better condition for subsequent remedial action. As a lessener of fibrin it is useless—its chief value, if used, being the relief to the vascular tension, and the rather more rapid absorption of neutralizing remedies. In my own practice I have not used it for many years. The local applications of leeches is warrantable, but more troublesome in general than the affection. A light antimonial emetic, however, answers more fully the desired end, followed, on the subsidence of its action, by an active purgative of Hyd. chlor. mit., with Ext. Colocynth Comp. The advantage of early emptying the bowels is realized, when the increasing disablement of the joints renders the efforts to rise not only agonizing but injurious. The affected parts should be bathed with a warm mixture of Potassa-bi-Carb. and laudanum, and afterwards wrapped up in cloths saturated with the solution, and covered with oil-silk or rubber, which can be gradually removed if the heat is complained of. Potato water, as left after boiling the vegetable or its parings, has proved a most soothing application, when freely sponged quite warm over the swollen and painful joints, which can afterwards be wrapped up in it, as directed for the alkaline wash. The Tinct. Actea Racemosa, in 6 to 12 drop doses, can be given in or followed by a solution of Nitrate, Bi-Carbonate, or Acetate of Potash; or the Tart. of Potash and

Soda, if preferred, can be substituted. Frequently, in children, the Actea alone serves to cut short the attack after a few doses, in conjunction with alkaline fomentations. The necessity for purging generally ceases after the bowels have been well moved in the beginning. At all events, *intestinal irritation is to be avoided*. It is well to remember that the expectant treatment of acute rheumatism is nearly as favorable in its results as the active. Colchicum, in the acute attack of the strong, who have deranged hepatic action, combined with opium, after due operation from the bowels, also forms a valuable remedy. Its purging and emetic effect is unnecessary and to be avoided. It is more as a cholagogue and an excretor of lithic acid, than as a specific in rheumatism. Where the liver is already acting freely, it does not form an agent of trust, and when frequently employed serves to injure the system. Hence the discrepancy as to its value. In alkaline combination it is frequently useful. The Nitrate of Potash, so much lauded of late, will be found beneficial where a high condition of fibrin exists in the blood, its solvent action over that element being called for. Otherwise it is no more, and many times not so valuable a remedy as the other alkaline salts. It is, therefore, not from any specific eliminating power of the rheumatic poison that is called for, but from its defibrinating action, and its value as a diuretic, and its probably converting the lithic acid into a more soluble compound, urea. After proper evacuation, the Pulv-Doveri, in full doses, will generally, though not always, produce refreshing sleep and quiet the pain. If found stimulant to the brain, watchfulness or flightiness taking place, it either must be increased or left off. Opium acts, in many cases, as an expeller of the lithic acid—in chronic cases, conjoined with turpentine, it sometimes causes immense quantities to be evacuated.

All things considered, time, forms as valuable an element in the treatment as the remedies selected. A certain amount of *materies morbi*, and the disposition to its reproduction, has to be broken up, and time, sweating, and sometimes urination are at work in the process of elimination. Remedies may assist, but if injudiciously employed they will retard, the patient suffering from both disease and doctor. The diet should be unstimulating, meat, soups, and jellies avoided, toast and water, with light gruels, being the best regulators. As the attack subsides, vegetable diet should be adhered to,—the local applications and internal remedies can be moderated. Clam soup, and raw salt oysters may, after a time, be allowed; and now, if the blood shows decrease of its red corpuscles, the mild preparations of

iron may be cautiously commenced on. If loss of flesh be increasing, coffee and tea will prove beneficial as preventers of tissue waste. In the anasarca of the debilitated, squill with quinine will be found most serviceable.

By these means the immediate reëttack may be warded off, but mental quiet and bodily rest are imperative. The supply being small, the demand should be lessened. But the low diet system is not to be carried too far; it is well to remember that the fibrin is increased in the blood by starvation, as well as by high feeding. Rest, however, is absolutely necessary. No blood is to be thrown into the parts in and about the joints, by the invitation of exercise. Even in the very robust, acute rheumatism sometimes attacks the joints after long-continued and violent exercise. But where the parts have been affected, with the system lowered by diet, remedies, and wear and tear from pain and loss of rest, great caution as to exercise is requisite; as other structures, and of higher importance, may become involved, and simple acute fibrous rheumatism, be merged into an attack of the epithelial bursal and synovial membranes of the interior of the joint, besides endangering the heart, pleura, and other organs, when their liability to become engaged was not at first probable.

It is this small point which makes the utmost watchfulness necessary, as regards keeping the system in good general working order, and which has made the pathological statements so variable, as respects the engagement of the heart in acute rheumatism. Every practitioner has observed that, when in the first attack in sound persons, the swelling, heat, redness, and pain have been very great, the heart is not so liable to become affected, as when all the symptoms are more moderate. In some cases, however, both the tissues in and without the joint are attacked, and then the diagnosis is to be carefully viewed, as the renal disturbance is mostly present, though perhaps latent to observation, at the time.

The friction with liniments, whilst the thickening, &c., remains, after the subsidence of the acute pain, will be found beneficial. The following recipe I am in the habit of using:—

R.	Ol. Origan,	-	-	℥i
	Ol. Lavend. Spicat.,	-	-	℥ss
	Tinct. Aconite Sat.,	-	-	℥i
	Ol. Amyg. dulc.,	-	-	℥iii
	Aq. Ammon. fort.,	-	-	℥ii
	Vel.,	-	-	℥ss

M.

A light covering, with cotton batting and oil-silk, should be

applied, unless the heat is complained of. The gradual reduction of the envelopes should take place after a time, so that chilliness be avoided, which would attend its speedy withdrawal.

The treatment in chronic fibrous rheumatism has the same features, differing more in degree than method, excepting in the employment of iodide of potassium in small doses. The system is to be carefully watched, exercise is to be judiciously and regularly taken, the surface made to excrete properly, the bowels to be kept soluble but unirritated, sleep should be rather longer than in health, as a promoter of insensible transpiration and nervous recuperation, whilst stimulant embrocations, oil-silk sweatings, and light galvanic applications should be employed to the part. The color, quantity, and specific gravity of the urine should be watched, as giving evidence of approaching danger, or of increasing constitutional vigor.

In the heart complications in rheumatism, the treatment requires great circumspection. The difficulty of breathing, the præcordial pain, the out-of-breath manner of speech, the desire to be propped up, the increasing effusions into the legs, scrotum, chest, or abdomen, with diminished urine and rapid pulse—these point out the imminent peril of the sufferer, from which nothing but a strong constitution, and skilful treatment can save him. The drain on the pent-up fluids is to be made through the bowels, as the kidneys are generally too occluded, or broken down in functional power, to be of any use. The Pulv. Jalapæ Comp. with Elaterium, or other hydragogues, with digitalis over the heart, or internally 3 to 6 drops of the Tinct. Veratrum Viride must be administered, and watched during their operation. Support by brandy or champagne must be proportioned to the exhaustion or nervous necessity, but no more. The stimulus, and not the carbon, is wanted now—neither lung nor liver can dispose of it. If alcoholic drinks disagree, coffee and camphor can be substituted, sometimes with most excellent results. During purging, the *position of the patient is to be kept unchanged, or even with the head lower if possible*—at all events, he is not to be raised suddenly—whilst stimulants should be snuffed through the nostrils, &c. If these means are successful in reducing the effusions, the kidneys can now be gently invited into action. The palpitation sometimes yields, most gratefully to the patient, after the administration of champagne, the carbonic acid serving to allay the irritability of the heart's action. By conjoining the infusion of the wild-cherry bark—or, where its bitter tonic property seems to disagree with the stomach, a few drops of the dilute Hydrocyanic Acid,—a most happy effect may

sometimes be obtained, when the irritability is excessive. But great caution is requisite in the administration of organic sedatives, as will be mentioned further on.

In the convalescence, if *the liver still should continue at fault*, the preparations of iron are to be avoided, as they will serve to induce congestion, and lock up the proper secretions of the organ. At this period, however, the kidneys will sometimes resume their functions, and labor not only for themselves, but, by taking off the purpurates and other highly carbonaceous compounds, so relieve the liver, that the system daily rises refreshed from their effects. The urine becomes more and more abundant, and loaded with the urates of ammonia and soda. It is here I would particularly caution the young practitioner, in his testing the urine with nitric, or nitro-muriatic acid, lest he should mistake the very copious deposits of the white crystals of lithic acid, for albumen. This I have seen done more than once. The deposit of the phosphates by heat, is corrected from wrong interpretation on the addition of the acid, which re-dissolves them. This dense condition of the urine by the urates of ammonia and soda, is the very salvation of the patient. Beware then of administering any acid, either alone or in combination with a vegetable or mineral tonic, as it will serve to neutralize just so much ammonia and soda, and thus prevent the elimination by the kidneys of the very lithic acid so poisonous in its action to the general system, but especially to the serous membrane of the chest, and of the heart, which will be again tortured by the acrid blood into renewal of its exhausting efforts, whilst convulsion and coma stand threateningly near.

In the early part of this tumult of the system, when the organic force is consuming by the overtask of the functions, I would strenuously caution against the abuse of opium, or of any narcotic, to produce sleep or relieve from pain. And I will only reiterate a maxim which I have before published, and often repeated, viz: that in all organic diseases attended with pain and excretory impediment, opium and other organic sedatives are to be avoided, as, by paralyzing the organic centres, dropsies may collect in the cavities.

Lemon-juice, in some cases of acute and chronic rheumatism, is at times beneficial, though rarely to be trusted to alone. Yet I have seen cases where it seemed to act as a perfect specific. It will prove chiefly beneficial in uncomplicated cases, where the urea fails in its urinary quantity, and where *an excess of ammonia* exists in the blood. Benzoic acid, in these conditions of chronic rheumatism, acts at times most favorably.

The children of gouty, rheumatic, and dyspeptic parents, are prone to a lithic condition of the blood, or at least to its elimination by the kidney. It is early marked in them by incontinence of urine, or "wetting the bed." Although the heart does not evidence organic disease in them, yet its motions are violent and frequent whilst crystalline lithic acid is formed in the urine; or they are variable in their diet and irritable in their dispositions, the urine being pale, abundant, but free from lithic acid deposit or in solution. The acid condition of the blood is irritating to the internal membrane of the heart, and the contractions are sharp and frequent. There is a loss of true tone in the system, and rheumatism is apt to set in spontaneously, or after violent anger or any undue exhaustion, exercise, or exposure. Here, opium forms a most valuable remedy from its sedative influence and its power to disengage the lithic acid from the blood.

Children given to masturbation, but whose urine alternates from lithic to the phosphatic, the intermediate depositions of the urates of soda and ammonia taking place, with increase of urea, are also subject to rheumatic attack or pains. Substantial diet, with opium at night, is the chief remedy. The furtive look, the desire for solitude, the uncalled-for sighing, the vesical irritability, the irregular languor, and the blowing sound in the heart and large vessels, with more or less palpitation, will serve to direct suspicion to the solitary acts of the patient, which careful watching may verify. Organic changes may, and frequently do, establish themselves from these long-continued functional disturbances. But it is always well to remember, in the disorders of nutrition of the heart, that the young are reproducers—their organic desire to remodel is ever at work; that the hypertrophy, if it exist, is mostly from *interstitial* deposit, and not a true fibrillar increase of the heart itself. Restraint from the abuse, chemical changes afforded to the blood, and the supply of fresh material by proper food, with attention to moderation of exercise, and sometimes to complete bodily rest, will form not only the treatment, but, in many, a *new organ*. Of this I have seen several most excellent examples. In later life, an individual ceases to be an active remodeler; he is on the waste account; his capital has no interest accruing, and he is forced to use it up for the common necessities of his system. These are distinctions as well as differences. Had these views been more common, so many heart-disturbed children would not have filled an early grave, or been moored to the stake of life, to waste away an aimless existence in later years.

In scarlatinal rheumatism, all treatment at times is rendered impossible by the condition of the patient ; as in scarlatina, the do nothing system is frequently the best. Good nursing, attention to the skin by sponging or moist wrappings, are better than the “*nimia diligentia medici*.” During the fever, the pain is mostly in the wrists, or in one or two joints. The scarlatina and the rheumatic complication are offspring of the same poison. There is pain, as in true fibrous rheumatism, but it is seated in different structures, and attended with different implications as regards the head, the heart, and the chest. In the robust, the diet, or rather the absence of it, forms the treatment. All animal food is to be avoided—the blood is yet too overloaded with nitrogenized products. If too early indulged in, the articular pains recommence or increase, chest or heart difficulties are renewed, and convulsions endanger the life of the patient. Farinaceous and vegetable diet must be continued a while longer. The debility is deceptive ; it is more the result of the oppressive action of urea over the great nervous centres, than loss of power from nutritive want. The return, then, to animal food, must be cautiously watched.

But in the weakly, these fears have to be in a measure given up. At the first ingress of the rheumatism, a little abstinence may be enjoined ; but after that, the position is different. Death by debility would ensue more rapidly than by the disease. It is the rheumatism of demand. Food and stimulus must be given. Ulcerations—pus makings, about and in the joints, are to be checked ; food and drink must do it ; for specific medicines are useless, unless quinine, iron and other tonics can be so called. Under a lowering plan, the coffin is sure to close over the wretched victims ; and life, to most of us, is better with a stiff leg or disabled joint, than the kind attentions of an undertaker.

In the convulsions attending both cases as above stated, the directions should be :—for the robust, feet and legs in hot water, with head up, or at an easy reclining angle ; for the debilitated, the *horizontal posture*, and no *warm bath*, but cold water sprinkled on the face and chest, in the *order of natural respiration*. Here, the brain must have blood, though diseased blood it be. From the neglect of this simple precaution, I have seen a child killed as though struck on the head,—the feet, and not the brain, being supplied with blood !

In syphilitic, and also in chronic rheumatism, iodide of potassium acts more than well ; in the former it is almost specific. Its combination with colchicum and with opium, may at times be required.

It is not only diuretic, but possesses the property to reëstablish assimilative vigor. Small doses, in repetition, act more favorably than large doses at longer intervals.

In rheumatic gout, especially where the fibrous sheaths of nerves are attacked, the combination of Hyd. Pot. with Colchicum acts most favorably, the Tinct. Aconite Sat., with Acid Hydrocyan. being painted freely over the route of the affected nerves, and kept from evaporating by strips of oil-silk or rubber. In the cranial effusions, the Hyd. Potass is the most reliable remedy.

Calomel is chiefly useful as a defibrinator, as a promoter of interstitial absorption, and as a specific stimulant to the liver, by which the decarbonation of the blood shall be promoted through the secretion of bile. In the debilitated it is positively harmful, if continued; although the balance at times, even in them, may be in favor of its use, where the brain is oppressed by black blood.

Guaiacum has long enjoyed a reputation in chronic rheumatism, and with apparent good right. It seems to possess the power of increasing the excretion of both lithic and lactic acid, by the kidney and skin. In rheumatic dysmenorrhœa, in leucorrhœal discharges attending this disorder—in the dermalgia, so painful on pressure or warmth—in hysteria and hysteric knee-joint complaints, mostly of a rheumatic nature, &c., this remedy, in conjunction with others, or in the form of the Vol. Tincture, will be found serviceable. The cases, however, are to be selected properly, whilst *time* forms an element in its action. I have known it not only cure, but eradicate some of these disorders.

Rheumatic chorea has already been adverted to, with partial mention of remedies. The irritability of the heart, or the nervous propagation is, in many cases, to be quelled before any permanent success can be attained. Arsenic, as in Fowler's solution, in six drop doses, with the endermic application of morphine, and quinine (if after malarial influence) over the cervical spine, is at times very valuable. In the rheumatic form, colchicum and *actea racemosa*, in small doses, have been found useful. The same rheumatic condition of the system have been attended, in both male and female, with *globus hystericus*. Stammering, as before remarked, is sometimes the result of rheumatism, in children whose systems have been weakened, and who are thus more liable to mental emotions, as fright, &c. The heart palpitates readily, and the muscular nervous branches to the larynx, and more rarely the hypo-glossal, or motor of the tongue, become the channels of the disordered reflex action. I have many times noticed

the sudden hesitancy of speech, from sudden emotion, in the rheumatic, differing from the arrest of power in the organs from emotional acts in the unaffected.

In conclusion, I shall only refer to acupuncture in sciatica, with effusion into the sheath, and in muscular pains, having been at times serviceable. Chloroform, blisters, the hot button, the endermic applications of veratrine, morphine, delphine, aconitine, strychnine, and other alkaloids, have had reputation for a time, but chiefly in neuralgic affections. In the gouty and rheumatic, local applications may relieve temporarily, but it is only by the patient study of the blood changes, with the appropriate antagonistic remedies, and food, that any permanent benefit can be realized, or security against attack be obtained.

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Hippophagia. The Employment of Horse-flesh for Alimentary Purposes.
Translated from the French of Dr. FIGUIER, for the MONTHLY.

The alimentary use of horse-flesh constitutes a question which has elicited much discussion during the year 1856. In view of the scarcity, and especially the present high price of provisions, economists, tradesmen, and men of science have discussed the possibility of introducing this new article for public alimentation. We propose to take a glance at the principal publications and researches which have thus far appeared on this important subject. After an exhibit of the facts, we will present the practical conclusions which are deducible from them.

Almost all the auxiliary animals are suitable for food, as can be easily explained. By increasing the animals which are destined for his aid, man acquires a great amount of force, as well as a large quantity of alimentary material ; and he is induced to avail himself of the latter, when the former becomes defective or useless. Why, then, is the horse—an animal of large stature, and one of the most important of the auxiliary animals—not employed, or, to speak more exactly, *no longer* employed for alimentary purposes ?

In our age, some few countries being excepted, nothing is required of the horse, in exchange for his food, except his strength. When old age comes on, or accident injures, so that his services are lessened, or rendered impossible, the horse is considered as capital which is on the eve of total loss ; only a few portions of the body are made

useful. And yet his flesh would offer valuable resources towards alimentation, if strongly-rooted prejudice did not discredit it in public opinion, by attributing inconveniences to it, from which it is, in reality, exempt. Buffon, himself, did not hesitate to condemn it as one of the worst kinds of food ; but the celebrated naturalist, without doubt, was led to this conclusion by public opinion, and only spoke from hearsay, as it is but little probable that even a morsel of horse ever figured in the list of dishes on the table of the Lord of Montbard.

It is estimated that there are not less than *two millions* of horses in France. But a small portion (the hair, skin, tendons, and bones,) is made of practical value. If the remainder is ever used for food, it is only in small quantity, and always as a fraud. To what slight uses, then, is the slaughtered horse devoted in France, while *millions* of men are living overwhelmed with distress, who vegetate, as it were, deprived of meat, and even of bread, and whose only nutrition is potatoes or chestnuts !

Like the ox and the sheep, the horse is essentially herbivorous ; no hurtful element is elaborated in his economy. His blood is richly nitrogenized, and is free from all unwholesomeness. Besides this, his blood is far from being disagreeable in taste. The proofs of these good qualities are very numerous ; let us cite some of them :

Baron de Tott relates, in his Memoirs, that having been admitted, as Envoy of the King of France, to the table of Krim-Gueray, the Khan of Tartary, some excellent ribs of smoked horse were served up, and received the praises of all.

The first of modern hygienists, Parent-Duchatelet, informs us that large quantities of horse-flesh, in times past, have been admitted into Paris, under different pretexts, but destined for food.

Huzard, Sen'r, a skilful veterinary surgeon of the latter part of the eighteenth century, states that at the time of the famine which raged during the Revolution, the greater part of the meat consumed in Paris, for six months, was furnished from slaughtered horses, and no inconvenience to the public health resulted from its use.

Larrey, the surgeon, in the campaigns of the Rhine, Catalonia, and the Maritime Alps, had recourse, frequently, to this aliment for his wounded. He made the most advantageous use of it at the siege of Alexandria, in Egypt, and owed to it, in a great measure, the recovery of the sick. Let us hear the words of the illustrious military surgeon :

“ Experience,” says Larrey, “ demonstrates that the use of hors -

flesh is very suitable for the nourishment of man. It seems to be particularly nutritious. Its taste is also agreeable. I have often employed it with the greatest success for the soldiers and the wounded of our army. During the siege of Alexandria, in Egypt, I have employed it advantageously. In order to meet the objections which were advanced by persons of rank in the army, and to overcome the repugnance of the soldiers, I was the first to have my horses killed, and to eat this meat. At the battle of Eglaw, during the first twenty-four hours, I was obliged to nourish my wounded with horse-flesh."

In 1811, at the request of the Police, Cadet, Parmentier, and Pariset, announced, in their turn, "that horse-meat is possessed of a pleasant taste ; that it is as nutritious as that of other animals, and that the workmen at Montfaucon, who eat it, preserve good health." These savants demanded, in the name of the Council of Health, "that the sale of horse-flesh should be permitted, and that an *abattoir* should be established, especially for horse-butchery."

From our own particular means of information, it seems that the horse-skinners (*équarisseurs*) of the abattoir of Aubervilliers, which has replaced the charnel-house of Montfaucon, make excellent daily repasts off of horse-flesh, roasted, or of its soup ; they have wonderful health, and even acquire *embonpoint* soon after their entry into this establishment. Other workmen, whose employment occasionally takes them there, such as masons, slaters, &c., at first look at such repasts with a species of horror ; but they are not long in changing their opinions, and they end by imitating their companions, so much the more willingly, as the benefit accrues to them of not being obliged to go to the butcher's.

Since, then, it is admitted that horse-meat presents all the advantages that we demand of the ordinary articles of food, having an agreeable taste superadded to the conditions of healthy aliment, how is it that it is not now employed throughout all Europe, to which it offers such precious resources ? Whence comes the repugnance that we experience to the use of horse-flesh as food ? Simply, as we intend to show, because the different nations of Europe have ceased using it for a long time. A very marked aversion has replaced the predilection which the ancients, particularly the Germans, had for this kind of food. History will show us the cause of this transformation of taste.

The Scandinavians and Germans, devoted to the worship of Odin, preserved and brought up with the greatest care, in the sacred pas-

tures, a race of white horses, destined to be sacrificed to the gods whom they adored. The sacrifice being accomplished, the flesh of these animals was boiled and served up at their banquets. This is, in all probability, the origin of *Hippophagia*, which, being introduced among the people of the North, became an integral part of their national manners, down to the time when Christianity, penetrating northern Europe, succeeded in destroying a custom intimately attached to the rites of the paganism of the North.

The Hippophagia, which was found so united with the rites of the religion of Odin, was an obstacle to the establishment of Christianity with the northern nations. Whenever, in fact, a Scandinavian, even though converted, ate horse-meat, he was led back to the souvenirs of his ancient faith. Thus the Popes, at an early period, prohibited the use of this food : religious policy would have it so.

In a letter written in the eighth century, by Pope Gregory III., to Saint Boniface, Archbishop of Mayence, we read the following passage :

“ You inform me that some eat the flesh of the wild horse, and the greater portion that of the domestic horse. Henceforth do not suffer this ; abolish the custom by all means that may be in your power, and impose a lawful penance upon all eaters of horse-flesh. They are unclean, and the practice is execrable.”

Pope Zachary, successor to Gregory III., renewed this prohibition.

In spite, however, of the interdict of the Pope, it seems that the use of horse-meat continued for a long time in Scandinavia. What gives weight to this opinion, is the fact that the race of white horses, which furnished the victims for the sacrifices, has never become entirely extinct ; and the only part of the globe where these can be found, free from all admixture, is the barracks of Fredericksberg, belonging to the crown of Denmark.

In direct ratio with the progress of Christianity, the consumption of horse-meat in Europe is seen to diminish, and finally it disappeared. The country where it persisted longest, was also that which last remained faithful to the worship of Odin,—we refer to Denmark. The nomadic nations of Northern Asia, in fact, have preserved even to our day a marked predilection for horse-flesh, and they make their favorite dishes of it—although they possess numerous herds of cattle and sheep. With the barbarous tribes of these lands this taste is most decided, and the Russian missionaries, imitating the popes of the eighth century, find, even at the present day, in the extirpation of Hippophagia, a powerful agent of proselytism.

We have only presented in a brief way an account of the different nations which admit the horse among the number of their sources of food. In the publication which we shall notice presently, M. Isidore Geoffroy Saint-Hilaire has given, with much detail, a long list of nations which, at different epochs, have habitually employed this kind of meat. The learned Professor of the Museum, in this curious enumeration, has taken a survey successively of all the countries of the globe. We refer our readers to his book on this portion of the question.

The employment of horse-meat as food, which M. Saint-Hilaire proves to have been common in former times in many portions of the globe, has regained in our day a certain degree of favor. The descendants of the ancient Scandinavians—the Danes—are the first among the civilized nations of Europe, who gave evidence of a return to this old custom. During the siege of Copenhagen, in 1807, the Danish Government authorized the sale of the horse in the shambles, and since that time this animal has not ceased to furnish food for the abattoirs; there exists, even in the capital of Denmark, a licensed slaughter-house, placed under the supervision of the Veterinary School, that furnishes only horse-meat, which is sold at 12 centimes (2 cents) the pound, average price.

The use of horse-meat, in our day, is slowly extending, and, what is remarkable, it has begun with the very nations who were the last to abandon it. In addition to Denmark, where, as we have just stated, this nutritious material is sold publicly under the supervision of government, Belgium, Switzerland, and Germany may be cited, as having for some years, in part, followed this example.

But it is of importance to make known in detail the successive series of efforts and experiments which have had as their end, the attraction of public attention and that of governments to this question.

In several of his publications, but especially in that on the "*Equarrissage et les voiries de la ville de Paris*," published in 1827, Parent-Duchatelet has collected some very interesting observations on the use of horse-meat. For some time all horses that have died in Paris and in the suburbs, have been taken to Montfaucon; almost entirely lost for industrial purposes they have there been abandoned to a putrefaction, which forms a focus of the most terrible infection, at the very gates of the most brilliant city of the world. Parent-Duchatelet, in seeking how Paris might be freed from the unwholesome charnel-houses of Montfaucon, undertook the subject of the

alimentary employment of this kind of food : and then made efforts to ensure the acceptance of horse-meat as an important aliment for domestic animals and for man himself. But his recommendations commanded little attention. Parent-Duchatelet, then advanced in years, could only point out the truth, but could not effect its triumph in the minds of his very prejudiced contemporaries.

The repugnance which it produces prevents the employment of horse-meat as food. Different savants of our day have united their efforts to overcome this sentiment, which is so inveterate an obstacle.

In 1847, M. Verheyen, a Professor of the *Ecole veterinaire* at Brussels, in a memoir read before the Royal Academy of that city, combatted by means of historic documents of great weight, the repugnance which is generally felt towards the employment of the horse for food.

After M. Verheyen, M. Geoffroy Saint-Hilaire endeavored, in the course of which he delivered at the Museum of Natural History in Paris, to show the alimentary resources which were offered by horse-meat, and, since 1848, he has every year regularly directed the attention of his auditors to this subject.

However, despite the facts reported in the luminous paper of M. Verheyen, despite the convictions so warmly expressed by M. Geoffroy Saint-Hilaire, it was much to be feared that public prejudice was only theoretically modified. The consumption of horse-flesh would never enter the domain of fact, if an end had not been put to simple dissertations on this point.

M. Renault, Director of the *Ecole Veterinaire*, at Alfort, being more especially occupied with the practical side of this subject, has undertaken a series of investigations of a kind to fix his opinion, and to inform the public as to the alimentary value and influence, as regards the health of man, of the flesh, fat, brains, liver, kidneys, heart, &c., obtained from horses killed at different ages, and in different conditions of embonpoint.

Convinced of the necessity of overcoming, above all things, the feeling of repugnance that the proposition of the use of such food would at first meet, M. Renault thought that it was proper to begin by efforts to eradicate this repugnance, and that the only means of succeeding, would be to make public use of the flesh and *abats* of the horse, differently prepared, and to invite the greatest number of persons possible to imitate his example.

Accordingly, after having personally varied his experiments, M.

Renault invited the officers of the Ecole, at Alfort, one or two at first, then a greater number, to partake with him. At the same time, he distributed some portions of different regions of the body to the employés and workmen of this establishment; he also induced the students to consent that one dish (*bauf à la mode*), at one of their repasts, should be replaced by horse-meat, prepared in the same way. The result of this first series of trials was favorable, for, in the opinion of all who participated in this diet, the taste of horse-meat has no peculiarity which would give rise to the prejudices of which, on that account, it is the subject.

This was, however, still only an argument of moderate value to be cited to the common people. It could be said, with some reason, that there was nothing unnatural in the fact that those connected with a School, where they were accustomed to the sight and daily handling of the dead bodies of horses, should not experience a very decided abhorrence to eating the flesh of these animals. This objection was somewhat plausible.

In order to overcome it, M. Renault had distributed to several workmen and artisans, of the district of Alfort, strangers to the School, portions of horse-meat, so that each one could take what pleased him. The consumers were so well satisfied, that most of them were eager to obtain it, and whenever a horse was killed at the Ecole, which had not been affected by a contagious disease, there was delivered to them certain portions of the same. Without being yet decisive, this second result was added to the value of the first. But what was not less important, the repugnance was to be overcome, and the support of persons gained, in whom habits of luxury, or at least, of comfort, would render it most difficult for them to lend themselves to an experiment which many call "disgusting." M. Renault undertook this, and prevailed upon some of his friends to surmount their prejudices. Among this number were found land-owners, magistrates, physicians, governors, and merchants. After having placed the first morsel in the mouth, and having tasted it with unfeigned disgust, they acknowledged how ill founded were their prejudices, and offered to bear high testimony of its character.

At length, a final trial remained to be made. Thus far, a certain number of persons, belonging to different classes of society, had been converted; but their opinion had an echo too circumscribed to become very general. New judges were to be assembled, who possessed, on account of their position and influence in the social scale great authority. These were the chefs d'administrations—those who

were specially charged with the superintendence of food, and of the control of its value and wholesomeness, members of the Council of Public Hygiene, members of the Academy of Medicine, publicists, selected from those whose duty it was to enlighten public opinion on all questions connected with agriculture, hygiene, medicine, chemistry, and all those sciences which have for their object the food, and preservation of the health of man. Such an experiment was of great importance, and it was crowned with complete success. In the beginning of the year 1856, Dr. Amédée Latour, editor of the *Union Médicale*, gave, in his journal, a report of a grand Hippic festival which had taken place at M. Renault's, Ecole d' Alfort, and at which all the guests proclaimed, with unanimous voice, the alimentary merits of horse-meat. The article in the *Union Médicale* was copied in different journals of France and foreign countries, and soon after similar repasts to that at Alfort, were given at Toulouse, Paris, Lyons, and Bordeaux, and public attention was thus seriously awakened to this important question.

In the month of August, 1856, M. Isidore Geoffroy Saint-Hilaire, who had thus far only treated, in his course, the question of the alimentary employment of horse-meat, published, under the title of *Letters on Alimentary Substances, and particularly on Horse-meat*,—a special work, to exhibit the actual condition of the question, and to defend the economic cause which he had embraced among the first. The treatise of the learned academician has the advantage of exhibiting, at a glance, all the results thus far obtained, concerning the consumption of horse-meat as food, and of supporting, by figures and positive calculations, some considerations which had been, up to that time, too vaguely expressed. It will be useful to give, here, a brief analysis of this work :

M. Geoffroy Saint-Hilaire commences by laying down this physiological principle as incontestably true : *meat is the aliment, par excellence, of man, especially in cold and temperate climes*. He then states the second fact, rigorously established by statistics and social economy, that *a part of the population of our cities, and a very large portion of the inhabitants of the country are unsupplied with meat*. The author appeals, for the establishment of this fact, to the statistics contained in the excellent work of M. Leplay—“*Les Ouvriers Européens*.”

The use of meat being recognized as one of the first requirements for the development and maintenance of the organism, and a portion of the French population being found deprived of it, how can we create such resources, in this connection, as are now wanting? The

way is already discovered, says Saint-Hilaire : it consists in the employment of horse-meat. This material is daily lost by millions of *kilogrammes*. Instead of throwing the bodies of worn-out horses on the garbage-pile, or of abandoning them for secondary industrial uses, give their flesh up for public consumption, and the lamentable deficit, which is remarked in the food of the masses, as regards nitrogenous, or animal material, will disappear by such a course. We may, doubtless, look forward to some resource for the future, either by the acclimation of some new species of animals for food, or by the progress of agriculture ; but, for the present, and a long time to come, the only thing to which we can efficaciously resort, is the flesh of the horse, as an immense and inexhaustible reserve. "It is necessary," says Saint-Hilaire, "to hand over, as food, the two millions of rations of horse-meat, which are daily consigned to secondary uses, or even absolutely lost."

Saint-Hilaire next examines whether the use of horse-meat could produce any inconvenience, if this food is unwholesome, and if hygiene condemns its use ? The answers to these questions are, in every respect, favorable to this alimentary product. Aside from the Chinese physicians, who reject from consumption either the flesh of all horses, or, at least, that of horses of two colors, and aside from a passage of Galen, often quoted, though incorrectly, there exists, among physicians, veterinary surgeons, and naturalists, only one opinion as to the wholesomeness of horse-meat. Persons have been wholly nourished with this food, during weeks, at Copenhagen, Falzburg, and other besieged cities,—even at Paris, during some months in 1793 and 1794—and this unusual diet never produced either sickness or indisposition. Further, the flesh and broth of the horse, administered, at different times, to sick and wounded, by military surgeons, and especially by the illustrious Larrey, have always been successfully used. In Egypt, during the siege of Alexandria, soups made from the horse have even contributed to the removal of an epidemic scorbutus, which raged in the army. Thus horse-meat is perfectly innocent, so far as the healthy are concerned, and, in a large number of cases, it will offer excellent resources for the sick.

But this meat is not only healthy, says M. Geoffroy Saint-Hilaire, it is, furthermore, of an agreeable taste. This point, it is true, is far from being unanimously admitted by public opinion, although it has already made some important concessions. The flesh of the horse has been considered, for a long time, as disagreeable in taste, very tough, and difficult to masticate. Even at the present time,

this is believed and reported about it. Among those who rail at the use of horse-meat, as tough, and of bad taste, we encounter some who have accidentally used this article in the army, during sieges, or during retreats, circumstances in which animals, as well as men, are found famished, worn out with fatigue, or, indeed, wounds. The flesh of horses, in such conditions, cannot be properly appreciated. After these first adversaries, comes a crowd of those who have never tasted the meat of, nor broth made from the horse, and who, consequently, do *not know*, but *believe*,—who do not pronounce a *judgment*, but who obey a *prejudice*. But so many facts can be opposed to this prejudice, that it is impossible not to perceive the slight grounds upon which it is founded. The results of the numerous and authentic documents collected by M. Geoffroy Saint-Hilaire, furnish us the following facts :

The savage, or wild horse, is hunted as game in all parts of the world where he is found : in Asia, Africa, America, and, in former times (possibly even now), in Europe. The same thing is true of all animals of the same genus with the horse. Zebras, asses, and quaggas are considered excellent game, often as the best, in the countries they inhabit.

The domestic horse, himself, is used as a source of food in Africa, America, Oceanica, throughout nearly the whole of Asia, and in various parts of Europe. Its flesh is considered good by nations differing very much in their mode of living, and belonging to very different races, such as the Negro, Mongolian, Malay, American, and Caucasian. It was very much esteemed, down to the eighth century, by the ancestors of some of the great nations of Western Europe, with whom it was in general use, and who only renounced it, and with regret, in obedience to prohibitions which were purely religious or political. It has often been employed, even in our day, in Europe, but under peculiar circumstances, for the nourishment of a large number of travellers, and especially of soldiers, during their campaigns. It has often been mistaken, by troops to which it had been distributed, and in cities, by people who had purchased it, for beef. "Horse-meat is very commonly sold (in Paris) under the name of beef, or as goat's meat, in the restaurants (sometimes of the highest order), without the consumers suspecting the fraud, or complaining of it."

In fine, horse-meat has been pronounced excellent by all those who have submitted it, before reporting on its qualities, to experiments properly made,—by all those who have tasted it under the requisite conditions, that is, when obtained from healthy horses, that have not

been fatigued. It is then perfect, as roast meat, and, if it is desired as boiled meat, it is precisely because it furnishes one of the best broths, probably the best known. It is even found good when obtained, as in the experiments of Lavocat and Joly, at Alfort and Toulouse, from horses not fattened, and of seventeen, nineteen, and even twenty-three years of age. This last fact is of considerable importance, since it establishes the possibility of making useful, a second time, on account of their flesh, those horses which have been employed, even up to old age, on account of their strength, by finding in their meat, at the end of their lives, and when their labor has largely covered the expense of their rearing and their support, a further value, a profit almost gratuitously afforded. Horse-meat, Saint-Hilaire says in concluding, so abundant and so wholesome, is at the same time good and suited to be used for public consumption.

Such is the nature of the contents, abstracting the figures and documents, which it contains, of the treatise of the wise Professor of the Museum.

With the aid of the numerous facts, from the different authors who have given attention to this subject that we have passed over in review, we shall be able, ourselves, to consider this important question with profit, and to find out whether we can apply these results, at present, to practical uses.

To decide whether horse-meat can be admitted at present among the number of our habitual alimentary articles, it seems necessary that the three following points should be placed beyond a doubt :

I. The taste of horse-meat is agreeable, and its use is attended with no detriment to public health.

II. It is economical.

III. It exists in sufficient quantity to play an important rôle in the alimentation of the masses.

Let us rapidly examine each of these points,—

I. After the experiments repeated this year (1856), in different cities of France,—after the *Hippophagic* repasts of Alfort, Toulouse, Lyons, Paris, &c., we believe that no one can retain the least doubt with regard to the qualities, and the agreeable taste of horse-meat. This is a result which seems to us, from this time forth, safe from all discussion. Moreover, if it is permitted us, we would add our own special testimony to that of so many persons who have recommended it. During last July, after having made some experiments at the Ecole Veterinaire of Alfort, on two horses that had just been killed, we carried the *psoas* muscles (the *fillet*) of these animals home,

in order to inform ourselves with regard to the qualities of this meat, and to be able to speak *de gustu* on the controverted subject. It is not necessary to employ many phrases, nor to make any preparations to say that the meat, eaten roast, boiled, and in soup, was excellent. It would be impossible, we believe, for any one, not previously informed, to distinguish a roast fillet of horse from one of beef. As for boiled horse, it yields, in no particular, to boiled beef, and the soup that it furnished was possessed of an agreeable taste, with a very agreeable peculiar aroma. Any one who wishes to repeat the experiment we have made, will certainly arrive at the same conclusion.

The slightest doubt cannot remain, as to the perfect wholesomeness of horse-meat, after the facts we have already enumerated, in giving the analysis of the book of M. Geoffroy Saint-Hilaire. It is perfectly clear that constant use of this article does not produce any detriment to public health.

II. Would the employment of horse-meat be economical? It was remarked, when this subject was first started (and we partook of the feeling), that it would be impossible to use, for consumption as food, old and worn out horses, such as are daily killed in the *equarisssoirs*;—that it would be necessary to devote, to alimentary purposes, animals in good condition, killed in consequence of some accident which rendered their further use impossible, and hence this resource would be very limited,—that we could not conceive of rearing and fattening horses with reference to their employment as food, on account of their high price, and, in fine, that, with these restrictions, the employment of horse-meat could not be economical. This argument, serious at the time it was made, has lost all its value, since experience has proved that horses old, worn out, exhausted, in plain terms, real worthless nags, still furnish meat which is quite edible. Were the horses young which furnished meat and soup of such good quality, at the repasts of Alfort, Toulouse, Paris, and Lyons? Had they been fattened? Were they of great value? Their ages were from *sixteen to twenty-three years*, and they were completely useless. One of these horses, *the youngest*, seventeen years old, had been sold to the *equarisseur* for not more than *twenty-five francs*. They were old servants, worn out with years and labors. Nevertheless, their flesh was considered tender and savory. In view of this fact, we must admit that the question of economy is decided most favorably.

III. Finally, would horse-meat furnish a sufficient quantity of alimentary material, so as to play an important rôle in the alimentation

of the masses? The information and numerical statements presented in Saint-Hilaire's *Letters*, give an affirmative answer to this question. Saint-Hilaire found, by combining the elements furnished by our official statistics, and other documents, as to the number of horses in France, the duration of their lives, and the conversion of horses of medium size into food, that the meat of horses which have died a natural death, or have been killed every year in France, is equivalent to about one-sixth of the beef or pork which is used annually for public alimentation,—to two-thirds of the mutton and goat's-flesh, to one-fourth of all the meat from the shambles and the pork-shops, or what is equivalent to more than two and a half millions of our medium rations of meat. It cannot be contested, in the presence of these figures, that horse-meat, from its great abundance, can furnish a very important resource for the alimentation of the laboring classes of cities and the country.

The following conclusion results from the preceding discussion : that since millions of kilogrammes of good meat are lost every year in France, and millions of men are deprived of this kind of food, it is necessary to introduce the flesh of the horse as an article of public food.

As a truth once acknowledged should not remain idle, we must express the wish that the Government would authorize, for the sake of the experiment, *the public sale of horse-meat* in the principal cities of France.

In France, despite whatever may be said to the contrary, routine governs all proceedings, and we love to be encouraged by the example of our neighboring nations. Let us, then, hasten to declare that the novelty which we demand is not so novel as one might believe. Horse-meat has been, for some time, an article of common consumption in many portions of Europe. There are public stalls in Sweden and Denmark, where this kind of food is sold. Such are also found at Schafhausen, in Switzerland, at Vilvorde, in Belgium, and especially are they found in a very large number of the German cities.

Some details, as to the employment of horse-meat in Germany, will not be out of place here. In 1850, yielding to the solicitations of the Society for the Protection of Animals, the Minister of the Interior, in Austria, declared that horse-meat might be used as food for man. The first experiment, with the design of admitting the horse as a source of food, was made at Vienna, October 21st, 1850. M. Wildner, of Maithstein, a great advocate of horse-meat, had killed, at his

house, in Doblenz, a well-fed horse, whose flesh was distributed to the poor families of the suburbs. After the announcement of this first attempt, Dr. Wildner had the first horse-butchery opened in the beginning of the year 1854. Although the meat sold from twenty to twenty-five centimes (three and a half to four and a half cents) the pound, according as the cuts were furnished from the fore or hind quarters, yet the number of buyers from the suburbs of Vienna was so great, that the success of the enterprise seemed certain. On the 20th of April, 1854, the sale of horse-meat was officially authorized, and subjected to rules, in Lower Austria. About the same time there was established, in the suburbs of Vienna, the first butchery for the sale of horse-meat. A female, well known for her benevolence, Madame Emilie de Braundal, assumed the first expense, and furnished the capital to the butcher whose stall was opened at Brigittenau, May 6, 1854. Two new butcheries were established afterwards, one in the Faubourg of Lichtenthal, May 24, 1854, and the other in the Faubourg of Gumpendorf, June 10 of the same year. Lastly, a new establishment of the same kind has been quite recently opened in the Faubourg of Landstruss. There are, then, actually four butcheries in Vienna where horse-meat is sold. In the environs of Doblin, a similar establishment exists, and another at Funfenhaus; and lately a stall has been opened at Inzersdorf, in the Wienerwald. An attempt made at Penzing has not been followed with satisfactory results.

The necessary permits for the opening of a stall destined for the sale of horse-meat, have been granted by government. The grantee need not be an expert butcher; it is sufficient if he engages to confide the management of his business to experienced journeymen. In Vienna it is further required that the applicants prove their possession of a place fitted for their business. Before, however, the permits are granted, the Commissariat of the Markets and the town authorities are consulted. In case of refusal, the applicant can appeal to the Council of State. But, in general, candidates that have been able to prove their professional fitness, either as butchers, or on account of their knowledge of horses, obtain permits, should the police not give unfavorable information about them.

The horses were killed at first in the two *abattoirs* appropriated to cattle, but the Viennese butchers having protested against this promiscuous use of the *abattoirs*, a special one has been appropriated for horses.

The superintendence of the sale of horse-meat, as well as that of

provisions in general, is entrusted to officers charged with the inspection of the markets. Horses intended to be slaughtered are examined by a special inspector, and prepared in his presence. The inspectors of the markets also exercise control over the localities where horse-meat is sold, and furnish certificates or permits to kill, which must be handed over for every horse destined for consumption as food.

The following extracts, concerning *the consumption of horse-meat in Germany*, are taken from a note which was published in 1855, by Dr. Lortet, President of the Society for the Protection of Animals, at Lyons :

The prejudice against horse-meat, says the Doctor, is no better founded than that which existed towards potatoes, for a long time after their introduction. It ended, also, by total disappearance. The example furnished by men of good judgment to their fellow-citizens, was sufficient to overthrow this unreliable prejudice. The Society for the Protection of Animals, at Munich, has especially directed its efforts to this end. Its appeal has been heard throughout all Germany. In different localities committees have been organized, who have assembled at banquets to eat horse-meat. It will suffice to cite some localities, in the order of their dates :

1841. The use of horse-meat was adopted at Ochsenhausen, District of Bibrach, in Würtemberg. Since that time an authorized abattoir has been established in the place, under the superintendence of a veterinary surgeon. There is sold weekly the flesh of five or six horses. There has been, likewise, during the last ten years, a great consumption of the same food at Benzenhause, on the borders of Lake Constance.

1842. A feast was prepared for 150 persons at Königsbad, near Stuttgart, at which horse-meat was alone served up, prepared in different ways. Since that time, the use of horse-meat has spread rapidly through all Würtemberg.

1846. An ordinance of Police, issued by the government of Baden, reads as follows : " Since the employment of horse-meat as food is becoming every day more common, we hereby order as follows : 1st. Only healthy horses shall be killed, and those who slaughter diseased horses shall forfeit from 10 to 20 francs fine. 2d. Every horse, before he shall be slaughtered, must be examined by a veterinary surgeon, who shall grant or refuse the permit." In the same year the government of Schafhausen also authorized the sale of horse-meat.

1847. Throughout the whole country of Carlsbad, in Bohemia, the use of horse-meat had become common. At Zittau alone, 200 were slaughtered in a year. During the course of this year, numerous butcheries, under the supervision of the police, were granted in Bohemia, Austria, Saxony, Hanover, the Duchy of Baden, Switzerland, and Belgium.

1850—1851. The Society for the Protection of Animals, at Hamburg, had 135 horses killed and disposed of for food. In 1835 there existed already five horse-butcheries in Berlin, and 350 horses were slaughtered there during the course of the year 1853. In Vienna, the same year, there was a riot to prevent the assembling of a party, where it was intended horse-meat alone should be employed. But in 1854, 32,000 pounds of it were sold in 15 days, and it is estimated that the number of inhabitants who now employ horse-meat daily is 10,000. This meat is sold only at from 15 to 20 centimes (two and a half to three and a half cents) the pound. All who have eaten it have found it equally agreeable, whether roasted or boiled. A ragout has the taste of venison. The steaks, smoked tongue, sausages, and the brains are regarded as delicate morsels.

The preceding note appeared in Lyons, March, 1855. Here is a more recent document, which shows the progress made in Germany since that date. It is a notice of the Society for the Protection of Animals, at Munich, published a few months since, and which has been translated for a similar Society in Paris, by M. Richelot, its General Secretary :

The consumption of horse-meat increases still more in Vienna, eight new special butcheries having been established in 1855. The prejudices against the flesh of an animal the most carefully reared, and nourished with the purest food, are gradually disappearing. Mr. Plattner, the banker of Nuremberg, known for a long time for his philanthropy, with the consent of the aulic councillor Herner, founded a butchery for horse-meat. At this time there are organized restaurants, where one can procure horse-meat, prepared in different ways, at 3 kreuzers (12 centimes, 2 cents) a ration. A similar establishment has just been founded at Haidhausen, by M. de Meckeln.

In 1854, 166 horses were slaughtered at Nuremberg, and 344 in 1855. There also exist, in all parts of Bavaria, butcheries for horse-meat, as well as in the city of Munich, and its environs, and these establishments thrive in their business. According to an official Report, communicated to the Society of Munich, Stamer, the butcher, killed from 1848 to 1855, on an average, 100 horses a

year ; Greene, 60 ; Hartman, 50 ; which would give, counting 300 pounds to the horse, a total of 477,000 pounds of horse-meat consumed during that period, in one district alone. What tortures have thus been spared to superannuated horses ? What spectacles, demoralizing to the people, prevented ?

The following fragments of Reports made, anterior to these, to the Society for the Protection of Animals in Paris, by M. Richelot, on the Societies of Hamburg and Vienna, may be read with interest, as a complement to the preceding note :

In a passage relating to the Society at Hamburg, he says, " the barbarities to which the noblest animals are exposed, have most especially attracted its attention, as in the case of all the Societies for Protection, and like the most of the German Societies, it has believed that, by encouraging the consumption of horse-meat, a sure means was discovered of securing the animal from numerous tortures. Of late years, it bought horses that were maltreated, either to sell them to more humane masters, or to have them slaughtered, and the remains offered for sale. In 1853 it had thus purchased 174 horses, but its mission in this respect has been very much contracted since the government, in compliance with its request, permitted the establishment, in 1854, of several butcheries of horse-meat. According to the Report of Mr. Warbourg, these butcheries are well supported, and the prejudice against this new food has completely disappeared."

Mr. Castelli, President of the Munich Society, confirm the facts reported by M. Lortet, as follows :

" In Vienna there were slaughtered, during 1854, in the five special butcheries, 1,180 horses, who furnished 472,000 pounds of good meat, at a low price."

Almost all our journals (July 1st) published the following article from the *Austrian Gazette*, which extracted it from the documents furnished by the Vienna Society :

" During three years, since the sale of horse-meat was allowed in Vienna, 12 butchers have slaughtered 4,725 horses, which have furnished 1,902,000 pounds of meat, distributed to the needy in 3,804,000 portions, of a half pound each. The product of the meat, skin, tongues, bones, and hoofs, amounted to 225,085 florins."

The example of our neighbors authorizes us to demand the adoption, in the principal cities of France, of the economical measure which Germany congratulates itself upon having inaugurated.

We will simply add that it would be indispensable, in cases where permission is granted to butchers to sell horse-meat to the public, to

have a body of inspectors, composed of veterinary surgeons, whose duty it should be to see that the horses slaughtered were not affected with *glanders* or *farcy*—those terrible diseases which are transmissible from the horse to man. The flesh of a horse affected with glanders or farcy, having undergone the process of cooking, could, doubtless, not communicate these diseases to persons using it as food, for the heat would destroy the morbid principles contained in the tissues. But individuals who should be obliged, by their occupation, to handle such meat, as butchers, men employed in the abattoirs to cut up the animals, and cooks themselves would be exposed to serious danger, this terrible affection, as we have said, being communicable to man from the horse. But with a Board of Inspectors, it would always be easy to keep from consumption as food, any animal affected with these maladies. These precautions being adopted, the general consumption of horse-meat offers no inconvenience, and we cannot close better than by quoting the words in which M. Isidore Geoffroy Saint Hilaire demands the adoption of this measure.

It is inevitable, says the learned naturalist, that whatever succeeds with our neighbors is repeated by us. Some purchasers will present themselves at first, attracted by cheapness, or for the sake of the experiment; then an example being given, a larger number, and soon a multitude of those with whom economy is always a necessity—that is to say, the immense majority of the working classes. Several kilogrammes being furnished at the price of one, it would be possible for millions of Frenchmen almost daily to eat meat, instead of once a week, as in our cities, or weekly, instead of monthly, or still less, as in the country; and such benefits can be easily appreciated by any one who does not wish for himself what he sees at his neighbor's. Would that the government would decide to take the first step; the rest will follow of its own accord, and the prejudice against horse-meat will join that against potatoes, on the long list of errors and blunders from which the progress of light has freed mankind.

When it is recollected that a healthy, invigorating, and economical article of food is thrown away in France by millions of kilogrammes, and that there exist, on the same soil, millions of individuals, having food of an insufficient character, and whose intelligence and moral character is necessarily altered, in consequence of the wretched condition of their aliment, we should hasten to place at the disposal of the latter, this precious resource, and encourage, in every way, whatever would help to extend its use among the other nations of Europe.

REVIEWS AND BIBLIOGRAPHY.

Human Histology, in its Relations to Descriptive Anatomy, Physiology, and Pathology; with 434 Illustrations on Wood. By E. R. PEASLEE, A.M., M.D., Professor of Physiology and Pathology in the New York Medical College, &c., &c. Philadelphia: Blanchard & Lea. 1857.

A necessity which all American students of medicine have experienced, has at length been supplied, in the production of a sound and practical work on Histology, or "the scientific classification and description of the structural, or organized elements of the solids and fluids of the living organism." Whilst a student, this want was felt severely by us, and the same complaint has been uttered frequently by others. We congratulate the profession generally, that a definition can now be gained in their studies, and that conjectural suppositions, need no longer mislead as to actual structural conditions, their normal functions, or their pathological states.

To Prof. Peaslee we are indebted for this valuable addition, in his lately published work on Human Histology. The plan of this work was formed nine years ago. Although there were productions in England, France, and Germany, embracing many of the subjects, yet none included the entire aim of Prof. Peaslee, by giving, 1st, "*A connected view of the simple chemical elements, of the immediate principles, the simple structural elements, and the proper tissues, entering into the composition of the fluids and the solids of the human body.*" And 2d, "*To associate with the structural elements and the tissues, their function while in health, and the changes they undergo in disease.*" The elementary measurements being reduced to the fractions of an inch will also facilitate the American student.

Mere descriptive anatomy, so long the basis of medical education, will not answer at this period, when physiology and organic chemistry have made such rapid strides. Histology, or minute microscopic anatomy must not only be taught, but *learned*; not merely as regards its special investigation into the structure of a single element, or of an entire organ, but also as respects their function. In bold relief to the darkness and uncertainty attending gross anatomical investigation, stands that beautiful science now known as physiological anatomy, from which the future foundation of sound scientific medical treatment, and successful operative surgery must arise. Descriptive anatomy is the mere A B C of the solids alone; but experimental and chemical physiology with histology, form from this alphabet a

language, which gives distinctness to outline, and definite conception to vague ideas.

Not only the solids, but the isolated fluids—as the milk, chyle, blood, and other secretions—fall within the domain of Histology, inasmuch as they contain cells, granules, nuclei, or the formative elements. These, and the tissues are embraced in the work. Hence Prof. Peaslee has divided it into two parts. The 1st is devoted to Stœchiology, or an account of the immediate principles of the fluids and the tissues. And the 2nd embraces Histology, or a description of all the tissues and fluids, containing histological or structural and organized elements of living organisms. The term “stœchiology” is somewhat new, although we believe it was first used by Robin and Verdeil. The first division under this head embraces “the simple chemical elements entering into the structure of the human body (15 or more in number).” It exhibits the physiological necessity, of our food and drink containing, at least part of these elements. Hence the variety of a food that is absolutely necessary for the perfecting of health ; milk and eggs perhaps being the only aliment containing them all. It also refutes the absurd ideas of some pragmatists, that *minerals should never be used as remedies*, since some twelve or more simple elements are mineral, and enter into our food, whether it be vegetable or animal. Nor is the notion that “no mineral except such as form part of the body,” should be used remedially any more tenable, since the same objection would hold against *all* vegetable remedies, viz : opium, lobelia, &c., &c., as not one of them enter into the composition of the body. “For if it be said that the active principle of vegetables (as morphine, quinia, &c.), contain only the elements, i. e. oxygen, hydrogen, carbon, and nitrogen, yet it is certainly true that strychnine, hydrocyanic acid, &c., contain some of these elements, and are far more destructive to human life than any mineral substances known.”

The second stœchiological division comprises “the immediate principles of which the human body are composed.” These are defined by Robin and Verdeil as “the last bodies constituting the organism to which the tissues can be reduced by mere anatomical analysis, and which admit of no further subdivision without *chemical decomposition*.” The eighty-four immediate principles, being all compound, except oxygen, hydrogen, and nitrogen, are divided into two groups ; the first including those principles which are crystallizable or volatile without decomposition,—the second including those principles which are *not crystallizable* and not volatile except from decomposition.

Oxygen is to be regarded as an immediate principle only when existing in a free state in the body; as in venous or arterial blood, in the bronchial tubes and air cells, &c. In the blood it exists in a liquid state, and probably in the corpuscles alone. Prof. Peaslee does not take so narrow a view of the oxygen consumed in the respiration, as Liebig and his French and German followers, viz : its final destination in combination with the tissues, and the sugar, starch, and fats from the food, for the production and maintenance of animal heat. He considers heat as the *result* of nutritive changes of all kinds, but not the *object* of them. Oxygen is a vital stimulus over the tissues, whilst the incidental heat is indispensable to the organism.

Hydrogen, although existing normally in the stomach, colon, and cœcum, and in very small quantity in the expired gases, has not yet been found in the blood. In the lungs and large intestine, it may be found as carburetted and sulphuretted hydrogen. It is also disengaged from abscesses near a mucous membrane, by the putrefaction of pus, or of organized tissue. (We are inclined to believe that these gases are sometimes generated in the blood in yellow fever, and also that the disengagement of hydrogen compounds, after the bursting of an internal abscess, or from surrounding disintegration, with its direct entrance into the vessels, may ensue, and sometimes with suddenly fatal consequences.) Carbonic acid exists in the body in solution, or in a gaseous state. There is more in *arterial* than in *venous* blood. It is set free in the lungs from the carbonates by the pneumatic acid. Originally, it is formed by the action of oxygen on the tissues, and the calorific elements of the food.

Nitrogen exists free in the air cells, in the blood, and in the intestinal gases. Animals suffering from emaciation inhale more than they return. Protoxide of hydrogen, or water, exists in every fluid and tissue, even in the enamel. But no constituent of the body has always the same amount, or indeed of any other immediate principle. As the water varies, so do the immediate principles. "Hence the error of those who would find the cause of diseases in any one tissue or fluid alone, or would attempt their cure by water, or any other immediate principle exclusively." We cannot attract too much to this truthful enunciation. Water exists in a gaseous state in the halitus from the lungs—it is the only instance. Certain *organic substances*, as osteine and muscaline, have the power of *fixing* a greater amount of water than their own volume and weight. Organs formed principally of these substances (and hence containing much water) "alone live independently and on their own account—alone present

the double vital phenomena of composition and decomposition." Besides giving to organic substances their mechanical properties, to fluids their fluidity, and to the hard parts their flexibility and tenacity, "water gives to all parts the possibility of manifesting their chemical properties also, hence that instability characteristic of organized tissues, and the constant acts of combination and decomposition." "But it also, with all these advantages, confers the liability to sudden changes in the blood, or in the organs, from putrid, purulent, or mephitic infections, facilitates the transmission of poisons, procures the aptitude to decomposition, and hence in many cases *induces sudden death*."

The dissolved salts in the fluids and tissues, serve as solvents for other immediate principles, viz: the soda and potassa in the serum, dissolving certain fatty principles therein. But none of the salts combine with the principles resulting from *dis*-assimilation, except common salt, which unites with urea, forming the chloro-sodate of urea. As such it exists in the blood, in the vitreous humor, and in part also in the urine. Bone tissue also is formed by the phosphate of lime combining with the osteine in connection with water. The earthy salts are found in every fluid and tissue in the body; they are indispensable in our food as they contribute to assimilation, and they aid in *dis*-assimilation by yielding their bases to the organic acids, such as the uric, hippuric, &c. By these combinations animal heat is partly a resultant.

The chemistry of food has lately attracted more attention from the practitioner. Liebig discovered that the phosphates and carbonates of soda might replace each other in the blood without detriment. Hence if the diet was of bread and meat, the blood contained no carbonates, unless potatoes were added. If fruits alone were eaten, the blood resembled that of the ox or sheep, while the urine became an index, by evidencing in the first case the alkaline phosphates, and in the second the alkaline carbonates. The observations of Bence Jones, as regards the urinary evidences in chorea, delirium tremens, and encephalitis, are referred to by Prof. Peaslee, and cannot be too frequently repeated to rebuke the display of contempt amongst many so termed "old and experienced practitioners," who, to distract from their ignorance of the value of urinary analysis in many diseases unconnected with kidney derangement, endeavor to keep scientific diagnosis within the scope of their own want of knowledge and unprogressive attainment. The sections devoted to the investigation of the blood and urine salts, evidence a masterly discrimination,

nothing being omitted that would be of practical value. The student and practitioner will be more than remunerated for the expense and time, by the careful study of this portion of the work alone. Although many works have appeared on these subjects, yet in none will be found such useful condensation, or such winnowing of the chaff from the wheat. On every page, whilst quoting freely from others, the author makes apparent his own impress. It is useless, at this day, to stand behind one's "professional dignity,"—the coming men must *know*, if they wish to keep up in the great professional race. And, although every day we see men who have succeeded more by the study of the *people* than of their *profession*, yet, as a general thing, their sunny years are short-lived, and their fame dwindles as rapidly as their success overgrew to its bursting.

Under the division "Neutral Nitrogenized Immediate Principles," we will merely quote the author's words as to the origin of urea: "It is decided that urea is formed in the blood, and it is doubtless formed *from* creatine, uric acid, and probably inosic acid also, by the action of the alkalies, and of free oxygen (*Schwann*); and since creatine is produced by the waste of muscular tissue, strong muscular exercise increases the urea in the urine. Thus, also, in delirium tremens, and all states attended by intense muscular actions (convulsions, &c.), a similar increase occurs. But urea probably also results from the decomposition of *any* tissue containing nitrogen, and not from that of the muscles alone. Moreover, if an excess of nitrogenized food is absorbed into the blood, it is excreted in the form of urea, this substance being the last and lowest in the descending scale of the metamorphosis of the tissues, while the lactic, uric, and oxalic acids, creatine and creatinine, constitute the preceding grades. The idea of a 'urea diathesis' is thus seen to be untenable." We hope, by attracting to this digest, that a more philosophical view may be taken in the treatment of many conditions of the system.

"Sugars, or neutral non-nitrogenized Immediate Principles," form the third division. Hepatic or diabetic sugar has always possessed great physiological interest, and the pages devoted to the exposition of the views of several scientific observers, and of the author's own, will be read with profit.

The fourth division treats of the "Fatty Principles." To the histologist, oleine, margarine, stearine, and cholesterine (or bile fat), are of special importance, although all the fatty principles are of high physiological interest. They for the most part exist in a fluid state, excepting the four just mentioned, which are sometimes patho-

logically found solid. Carbon, hydrogen, and oxygen alone exist in them in definite proportions. They are ready formed both in vegetable and animal organisms. The author does not agree with Robin and Verdeil, in thinking them sometimes the result of *dis-assimilation*. In the human body the fatty principles exist in three different conditions : 1st, As adipose tissue, enclosed in cells ; 2nd, In chemical combination with other elements, as in the organic matter of epithelium, nails, horn, and hair ; 3d, As oil drops, or fat-globules, without any true envelope, and which are themselves made up of several of the fatty principles united "molecule to molecule," and in this form they enter almost every fluid and tissue (excepting the teeth and bone). In the brain, in the cholesterine in the blood, and in certain fatty acids, the elements are in a state of isolation. The corpus luteum is more abundantly supplied than any of the tissues. In encephaloid, atheroma, and other morbid growths, the fat-globules abound. Fatty degeneration is an instance of their replacement of the normal tissues, and this sometimes with fatal result. "Fat-globules exist normally in the urine, semen, prostatic fluid, saliva, nasal mucus, synovia, and bile, and in the serosity of the pleura, of the peritoneum, and that produced by a blister." Blood serum contains fat even when mixed with other fluids (as urine), and pus also contains it in notable quantity. In the duodenum and jejunum the fatty principles are converted into an emulsion by the pancreatic fluid ; the lacteals then absorb it, and it enters the venous current through the thoracic duct. According to Boussingault, *the amount of fat in the blood does not vary greatly*, whether the food contains much or not. This remark is peculiarly valuable in reference to certain forms of phthisis (where the saponified fats are greatly diminished), as regards the employment of fats or oils. The blood amount of fat being almost permanent, while the epithelia and the various tissues require a regular supply to exist normally, unless a due balance is preserved, disintegration must necessarily result ; and no matter whether the blood obtains it from the tissues, or the tissues derive it directly from the blood, yet it must exist, and be supplied by food or by *dis-assimilation*, else, to use a homely expression, it will be "robbing Peter to pay Paul" the whole time. Its use as a calorific element is well known. Although the human liver has a fat generating power, yet adipose tissue depends more likely for renewal from the food, independent of the inherent capacity of cells to elaborate their own nutrition from certain elements.

Cholesterol (or bile fat) exists normally in the bile—its produc-

tion Prof. Peaslee attributes to the dis-assimilation of the liver tissue itself. It is almost the entire component of gall-stones. Pathologically it is found in the blood, brain, nerves, cerumen, crystalline lens, and in certain tumors. In icterus it is increased ; and although it is generally believed not to exist in the urine, the writer of this article has found it after a severe attack of that disorder, the urine being as high colored as brown stout. Being a non-saponifiable fat, cholesteroline resists alkaline decomposition.

Oleine, margarine, and stearine are the three immediate principles of adipose tissue, each being composed of a fatty acid with the oxide of lipyl. From the latter glycerine is formed. For the uses of the fatty principles in the organism, the work should be consulted. Prof. Peaslee makes some valuable remarks respecting the emaciation following profuse suppurations, long-continued intellectual labor, and exhausting venereal excesses ; also as regards the easier digestion of albuminous substances when mixed with fat. It is certainly indispensable in the generation of all the nuclei of primordial cells. Cod liver oil not only aids the digestion of albuminous substances, but it is easily assimilated by parts requiring fat. In protracted diseases it sustains the strength, whilst perhaps the morbid process exhausts itself, or till healthful cells are generated with renewal of normal tissue. It therefore ceases to be a medicine and becomes a food ; and the author agrees to the propriety of mixing it with the diet, in preference to giving it between meals. If it disagrees, an alkali can be added, thus aiding the pancreatic fluid in preparing an emulsive fluid fit for absorption by the lacteals.

Class 3d includes the "Organic Substances, or Coagulable Principles." These are all compounds of carbon, hydrogen, oxygen, and nitrogen. They have no *definite chemical composition*. However, their limits of variation are narrow ; therefore, the composition of fibrin, albumen, &c., is not at all times identical. Most of the earthy salts unite with these substances, so that when concretions are formed, a certain quantity of organic substances is fixed and retained within them. The metallic salts also unite powerfully with them. Hence advantage is taken of this fact in the preparation of pathological specimens. The metallic poisons, such as arsenic, mercury, &c., act in like manner, by causing local erosions, and also by rendering the tissues no longer capable of vital renewal.

The albumen and fibrin exist ready prepared in the food. By digestive preparation they are rendered fit for assimilation. Osteine and elasticine are not found in early embryonic life, and caseine

appears in the female only after puberty. "It is probable that neither of these principles can be directly *transformed* in the organism into another." Still less, can any tissue once formed, be directly transformed, as cartilage into bone, &c. When this appears to be the case, the former tissue is *replaced* by the latter.

All these organic substances are assimilable, and do not appear in the urine except in certain kidney disorders. Even osteine, if associated with carbonate of lime, will sustain an animal a long time. Gelatine is not assimilable, but appears in the urine. (It would, therefore, be difficult to fatten on jellies, and their value in the sick room is at times more than questionable). No *one* organic substance can long sustain life—accessories from other classes must be taken. No *one principle* (not even the organic substances), can form a tissue with vital properties. In croup, the so-called false membrane, Prof. Peaslee says, "never becomes vascular." It would have been better to have said "rarely," as the writer has twice witnessed its organization. Organic principles are to be distinguished from histological elements, as the latter have a determinate form, and are not constituted from a single substance. Other principles besides salts and certain compounds exist even in a single cell. "Chemistry, alone, then, does not give a just idea of the organic substances; their examination is a part of anatomy." They leave the body in the form of lactic and uric acid, urea, carbonic acid, water, &c.

As far as the science of the day has progressed, the author, in addition to his own views and researches, has sifted out nearly all the points of any practical value. We will, therefore, be obliged to hasten over many important subjects, and to omit more. We cannot, however, pass over the chapter on albumen without recording Prof. Peaslee's view of "albumen, and not fibrin, being the pabulum of the tissues," as from it they are mainly, if not entirely, developed and nourished, and that in them it is assimilated according to their various constructive necessities. Fibrin, itself, most probably owes its origin to albumen. One of the chief uses of fibrin is to act as a kind of *scaffolding* for the development of the tissues; in exudations it forms the *nidus* for adventitious growths. *It does not exist in muscular tissue* at all. In composition it differs from seralbumen, by containing an atom more of oxygen, and one less of sulphur. Fibrillation is the highest organic action of fibrin. Albumen has no such property; it coagulates into a merely hyaline substance, or is minutely granular. The vitality of fibrin is diminished or destroyed by the proto-chloride of mercury, sulphate of soda, nitrate or carbonate of

potassa, and the chloride of sodium, &c. Hence, advantage is taken of this fact in preventing, or modifying its formation into adventitious membranes. (If these agents are administered too freely in the scrofulous, or in persons of low vital action, the exudation may be converted into pus. So that pus is not, at times, so much an evidence of the *disease* as of the *doctor*!) Prof. Peaslee regards fibrin as a compound, as is also the case with caseine. He does not adopt Lehmann's view of its origin, by the mere chemical action of oxidation, but thinks, if fibrin possesses vitality, it has power of self-development from the analogous compounds, albumen, fats, and a few saline substances. It also undergoes its own metamorphosis, and like albumen is finally converted into urea, uric acid, &c.

The whole chapter on Fibrin is a most comprehensive revision, and should be carefully studied. It impresses facts which reduce themselves to therapeutical indications, and will serve to do away with much irrational and unscientific practice amongst careless and superficial medical observers. Under "Solid, or Demi-solid Immediate Principles" are ranked globuline, crystalline, musciline, osteine, cartalagine, elasticine, and keratine. Musciline exists in striated and non-striated muscular tissue. It differs from fibrin by being soluble in water containing $\frac{1}{10}$ its weight of chlorohydric acid. It is formed from the albumen and albuminose in the blood. "The necessity for admitting that muscular tissue is formed from the blood-fibrin, ceases to exist, when it is demonstrated that fibrin does not exist in it." Musciline is endowed with the vital property of contractility in connection with other immediate principles. Fresh muscular fibre is highly and indefinitely nourishing, but fibrin even mixed with soup is limitedly so. Roasted or broiled meat is more nutritious than boiled meat, as musciline is converted into a species of gelatine by boiling.

Osteine is the substance from which gluten, or gelatine is obtained by boiling. Gluten is an *exterior* product—it does not exist naturally in the body. Osteine is found in bone and in white fibrous tissue wherever placed. It is chemically combined with the phosphate of lime in the bones. It originates from the albuminous elements of the blood. Its chief use is of a physical nature, although it is nutritious and assimilable. Gluten, as proved by Majendie, is not nourishing. Osteine is not *formed* from cartilagine. For, as bone merely *replaces* cartilage, so the osteine replaces cartilageine. The latter exists in bone cartilage and in the permanent cartilages; but osteine coexists with the first appearance of ossification.

PART II. embraces Histology with Histogeny, or the development of the elements just mentioned. Prof. Peaslee's work is what it professes to be—a treatise on Human Histology, both general and special—physiological and pathological. Thus the subjects it includes will be found to underlie the whole domain of anatomy, and of physiology, and pathology. Under the 1st Division is mentioned "Homogeneous substance." The classification of this substance as one of the histological elements is, we believe, peculiar to the author. It is described as a more or less solid, structureless substance, which enters into the composition of several of the tissues. It fills up the spaces between the fibres or cells of compound tissues. It exists pathologically in cancer, and is also an element in tubercle. It has two forms, viz: the hyaline and granular (as seen in cancer). Although probably developed from albumen, yet it is of a higher condition. In its lowest form, it is a mere cement for other histological elements. In bone, &c., its development is higher, though still of a low vital grade. Pathologically it undergoes fatty degeneration, and is subject to pigmentary deposits.

Simple membrane, or as it is sometimes called, *limitary* membrane, is a very thin, transparent, and structureless layer of coagulated albumen or plasma. It is non-vascular, and is never penetrated by any vessel, nerve, or other tissues, but acts as a barrier over or between surfaces. It is found in two conditions only, except when an element of compound tissues, viz: as basement membrane, and, as constituting the walls of cells. It possesses two vital functions, viz: absorption and secretion. It is also highly endosmotic. Basement membrane then, is a mere expansion of simple membrane, and is itself covered by the epithelium in serous and mucous membranes, and by the epidermis. In other words, it is the basis of the epidermis and of epithelium.

Simple fibre is next considered. It is merely the result of fibrillation. In solutions of continuity simple fibres become the *nidus* of repair, as well as the matrix in which the tissues generally are developed during embryonic life. It is therefore a temporary element, and not a permanent constituent of the body, unless as developed in some false membranes.

A most valuable chapter will be found under "Cytology." Tubercle falls under the division of "Pathological developments of Nuclei." The views are clearly stated, and they cannot fail to instruct. The uses of fat in the blood plasma from which cells are developed; the want of evidence as regards the existence of fibrin in the cell wall or

its contents, and the doctrine that the albumen of the blood, and not the fibrin, is the *pabulum* of the tissues,—are given in a concise and masterly summary. The theory of free cell development, and of cells from preëxisting cells, is fully entered into, and we would recommend to the student its careful re-reading, that their growth, nature, and function, should be impressed on the mind, in order to appreciate any deviation that may occur in them, as a pathological condition. The idea of running the healthy histology into pathological histology, is preëminently Prof. Peaslee's own. The science of life stands on the tripod of Histology, Physiology, and Organic Chemistry. Wanting a decent knowledge of these branches, the practitioner cannot claim to be any more than an empirical experimentalist. Although necessity caused empiricism to be the first leader into therapeutics, yet through the enlightened philosophy now accumulated, this necessity has ceased to exist, and medicine need no more wander with unsteady step and uncertain aim; but, like the unshackled captive, stride forth upright, with the consciousness of self-developed strength, and that its day of gloom and of doubt has yielded to a glorious sun.

A concise summary is given of "Cancer Cells." The microscopic illustrations are well executed, and will be found useful as guides to the inquirer. A discriminating view is taken on closing the subject, as to the value of the microscope in detecting cancer growths.

The second division embraces "The Fluids of the Human Body" (or "Hygrology") in their histological relations. 1. The blood, including lymph and chyle. 2. Serous secretions, transudations, and exudations. 3. Mucous and glandular secretions. 4. The cutaneous secretions. The "cytoid corpuscle" is first described, being one of the histological elements common to the lymph, chyle, mucus, pus, and to exudations and the colorless blood corpuscle. The generalization of the whole subject belongs to the author, although the term, we believe, was first used by Henle. The "cytoid corpuscles" are developed in any fluid containing their nutritive elements. Hence they are developed in exudations, and in the liquor mucii, pus, &c. The author does not consider them as resulting from epithelial secretion of the mucous membrane. The function of the cytoid corpuscles in exudations is doubtless to constitute the basis of new tissue, *if sufficient local organic force exists*; but, as developed in mucus, or pus, they never advance towards organization.

Lymph (or also chyle) is to be regarded as the primary condition of blood, being elaborated by the proper glands, &c., till it is capable of assuming its full function in forming the liquor sanguinis. The

chapters on lymph, chyle, and the blood, are condensed views of their organic and chemical relations. The normal conditions of the blood are described in the most clear and concise manner, whilst the author's remarks on its pathological states in certain diseases are most valuable. The student will find the usually perplexing distinctions of the constituents of the blood explained in a most attractive and easy-to-be-remembered manner. The origin of the colorless and colored blood corpuscles is fully described. The elaboration of fibrin by the colorless corpuscles the author considers quite improbable, and supports his views by reference to the different conditions in which the number of white corpuscles is very great, yet the fibrin is found lessened. The portion devoted to the consideration of the gases contained (or developed) in the blood corpuscles is of high value; the deleterious action of certain carbo-hydrogens, carbonic oxide, &c., over the corpuscles, should be remembered, as it will be found useful by practical men. That the red corpuscles have any direct relation to the formation of the tissues, the author considers very improbable, and regards their special function to consist of dis-assimilation, with the consequent development of vital force, &c. If there be any particular organ for their formation, he adopts the view of the liver being the seat, while their dis-assimilation takes place in the spleen. The blood varies in different physiological conditions, viz: in pregnancy, in infant life and old age, and during digestion, &c. There are normal differences also in the different vessels. Every organ renders the blood more or less changed after its issue. In pathological states of the system, as before observed, the blood varies greatly.

The arrangement of the chapters on serous secretions, transudations and exudations, is most admirable, and of great simplicity, while their study makes the subsequent considerations on pus more intelligible, as respects its origin, characteristics, and its uses. Without a clear conception of these subjects, the study of inflammation must ever be a confusing subject, and a true knowledge of the histogenic realities of inflammation is the very basis of practical medicine.

The writer of this article has long looked upon the cytoid corpuscle as instancing free cell development. The nutritive elements, whenever placed in normal relation to their proper tissues of selection, have the capacity of developing (or being developed into) cells, whether in the lacteals, the lymphatics, or in *any other position having similar inherent vital action*. Wherever plasma or "blastema" is thrown out, cytoid formations ensue the same as though the elements

were under the influence of the lacteals, or lymphatics. From this view greater simplicity is afforded as regards pus generations, or other degenerated cytoid productions. It accounts for the independent or spontaneous generation of pus in parts suffering from local depravity, or having a low condition of organic force, which not being sufficient to *remodel the tissues*, the cytoid corpuscle could not advance to organization, but becomes effete, or changed from its vital use into a lower grade—or into pus. The character of pus is as various as the existence of the cytoid corpuscle—whether from lymph, colorless blood corpuscle, chyle, &c., &c., or from dissolution of the already formed tissues. Pus, therefore, is nothing more than a perverted or degenerated condition of the lymph, or chyle corpuscles—rendered unfit for normal organic employment from atmospheric exposure—disordered tissue assimilation, imperfection in the nutritive elements themselves, by which retrogressive acts take place, &c. Hence inflammation with pus exhibit is always deranged nutrition, and can never be termed “healthy,” as its very birth is in unsoundness.

Mucus, as defined by the author, is “a fluid secreted by the epithelial cells and general surface of mucous membranes, except where they form the lining of minute gland ducts.” He regards the mucous membrane, physiologically, as having no special function so far as it is *secretive*, but only so far as it is *protective*. The epithelial cells manifest the specific vital properties and secretory functions. The corpuscles he considers as not an *essential* part of mucus, nor as an abnormal production, as viewed by Kolliker. He believes them to be generated according to the law stated in the development of cytoid corpuscles. That they vary is undoubtedly true, but it is in proportion to the irritation or inflammation of the tissue, or of the blood itself. Mucus, however, is not protective only, as under certain modifications (as the gastric and intestinal fluids) it is essential as an aid to digestion.

Under the head of “Milk” will be found a valuable recipe for a substitute for mother’s milk. Throughout the whole work the practical facts associated with the histology and pathology are clearly enunciated, and cannot but serve to induce a more philosophical and scientific regard, both from the surgical and medical practitioner, as regards treatment.

The chapter on urinary deposits and concretions is a most practical summary, while the illustrations will greatly aid the microscopic student.

In the chapter devoted to "Cutaneous Secretions" the author considers the main deleterious effect of "a check of perspiration" to be from the cessation of the exhalation of water, carbonic acid, and nitrogen, and not from the retention in the blood of the perspiratory elements. Hence the pulmonary, intestinal and urinary surfaces manifest greater transudation function than natural, after the arrest of the action of the skin.

The third division embraces the "Classification and Description of the Tissues." It has the merit of simplicity. The divisions of epithelium are peculiar to the author. The function of epithelium varies according to the variety and situation. The simple compound scaly being both for protection and secretion, elaborates serous or mucous fluids according to the structural position. The conoidal variety has the additional function of absorption, as seen in the epithelium of the villi. It is everywhere endosmotic. The ciliated variety of epithelium, existing in the air passages, in the female genital cavities, in the Eustachian tubes, &c., is probably endowed with a mechanical power of promoting currents, as it were, in the fluids, by which not only greater moisture is preserved, but a more extended exposure of surface is secured, especially in the fine bronchial tubes. In all cases secretion is apparently due to epithelial cells, and as they have normal functions, so are they liable to pathological changes. In some disorders they become desquamated, and sometimes so extensively as not only to rescind all local secretory action, but by their loss of protection to cause pathological conditions of irritability, inflammation, or other disturbances of nutrition. Hence we practically find that, by the too powerful or too frequent applications of escharotic remedies (as for example the nitrate of silver to the throat), the disintegration of the epithelium is effected, leaving the pharyngeal and probably the laryngeal surfaces bare, red, and glistening, the parts complaining, as before remarked, more of the *doctor than of the disease*.

Our limits will not permit an analysis of the chapter on "Yellow Elastic and White Fibrous Tissue." They should be carefully studied, from their vast distribution in the organism, and from their subjection to certain pathological states, either as hypertrophic or atrophic. From the fatality attending many of these morbid conditions, they might with reason be numbered amongst the malignant disorders—since "cirrhosis," granular kidney from hypertrophy of the inter-tubular collagenous tissues, &c., are as fatal in their results as regards life as any of the cancer growths.

"Areolar Tissue" forms the next subject. We will refer merely to its pathological conditions or developments. Increase of its natural serous fluid constitutes œdema, but if considerable, and in the subcutaneous areolar tissue, it is termed *anasarca* or dropsy. In areolitis an exudation results, which if extensive causes induration. This exudation may be converted into pus, with ulcerative action. In certain serous diseases the natural areolar fluid becomes absorbed, to compensate for losses elsewhere, hence the shrivelled appearance after Asiatic cholera. Ecchymosis is a mere extravasation of blood into the areolar tissue. Emphysema is a result of the introduction of air into this tissue. Sometimes it is caused by local decomposition. New abnormal formations of areolar tissue may constitute the stroma of cancerous growths.

Fat, and adipose tissue are not correlative terms. Fat is a fluid compound. Adipose tissue consists of cells and intercellar areolar tissue. In the nerves and brain fat enters into chemical composition with the tissues themselves. Excessive venereal indulgences and profuse suppuration cause emaciation, since semen, blood, and pus are rich in fat, and it should be remembered that all cells require fat for the development of their nucleoli. When wasted by any cause, it must necessarily interfere with the formation of bile, and other secretions. Therefore, its drainage from the system is directly injurious, not only from withdrawing the already matured fat, but by diminishing indirectly the supply of albumen, which is the *pabulum* of the tissues, and from which the fat itself is in part elaborated in the alimentary canal. Besides, its chemical relation in nerve and brain tissue is interfered with, and thus life is sapped, whilst premature decrepitude with its marrowless bones totters in the footsteps of wasted youth-life.

The fact that in certain forms of phthisis, the administration of oils or fats are not only repugnant but injurious to the patient, may be well explained by the remarks on Stearosis.

The Osseous System is dealt with at some length by the author, and a more valuable chapter cannot be found in the book. To the surgeon the whole subject of the development, growth, and reparation of bone is replete with interest of practical importance. Indeed, without a histological knowledge of bone, the surgeon can only rank as a mere bone-setter, or sawyer, while its pathological states, or its new formations, can only be guessed at, or "lumped" under a very narrow vein. As the bones are the basis of the skeleton, so the knowledge of their histological elements—the mode of their

production and regeneration—is the platform of scientific anatomy and surgery.

Chapter 10th allots about fifty pages to the consideration of the “Nervous Tissues,” and of the “Nervous System.” Two forms of tissue are described, viz: the tubular or fibrous, and the vesicular. Tubular nerve tissue in its highest development encloses a fibre. The term “fibrous is used when the tube is wanting, as in the very minute forms. The length of the nerve-fibres vary according to the distance of the containing parts from the spinal cord, encephalon, or the terminating ganglia. The large nerve-fibres consist of a neurilemma, and its neurine (or the medulla and axis-fibre). The neurilemma consists of simple membrane with interior nuclei, but the finest fibres are apparently destitute of it. The axis-fibre occupies about one-third of its diameter, being an albuminous compound free from fat. The axis-fibre varies in size with the nerve-fibre, although during life it is undistinguishable from the surrounding medulla, which is itself a tube enclosing the axis-fibre. The medulla, unlike the axis-fibre, is chiefly a fatty compound. Some axis-fibres, however, are non-medullated, the finest being not only destitute of it, but also of a sheath. Histologically, the division into coarse and fine fibres is important, although physiologically it is not so, since the medullated coarse fibres sometimes lose these appearances and dwindle down into mere axis-fibres. There are no nerve-fibres peculiar to the sympathetic nerves, except that the proportion of the finer tubes is greater in them than in the cerebro-spinal nerves, which always contain certain dark-bordered tubes of all sizes, and especially at their distal terminations. The author agrees with Kolliker, in regarding the so-called gelatinous fibres of ganglionic nerves, merely “as a form of elastic tissue, or nuclear-fibres.” These fibres, also, do not extend much beyond the ganglia in the main sympathetic trunk. In both systems of nerves, as well as in the white portion of the brain and spinal cord, the nerve-fibres constitute the chief part. The coarse fibres predominate in the muscles, whilst the reverse happens in the ganglionic nerves. The function of the coarse fibres is probably motor. The fine fibres are not motor, they are afferent, or conductors of sensations and impressions to the centres. “The finest fibres are not peculiar to the ganglionic nerves; and if they manifest a particular function (i. e. as the great sympathetic), that function is probably manifested by the spinal nerves also, in proportion to the fine fibres they contain.”

We must now close, having already overstepped the limits allowed

to us. In doing so, we trust that sufficient subjects have been embraced to show the value of the work, the remaining portions being treated by the author in the same clear and nervous style. As a work for practical reference it is invaluable, and should find a place in the library of every medical student; we say student, as we have yet to learn when student-life ceases.

H. P. D.

A Collection of Remarkable Cases in Surgery. By PAUL F. EVE, M.D., Professor of Surgery in the Medical Department of the University of Nashville. 8vo. pp. 858. J. B. Lippincott & Co., Philadelphia.

As its name indicates, this is a series of unusual cases, including accidents and surgical operations, arranged according to the different regions of the body to which they refer. Such a *melange* does not admit of review; and, collected as they are, from the MONTHLY and other medical journals throughout this and other countries, many of them are already familiar to our readers. One cannot but be amused by some of the contrasts the volume gives. There are cases of crow-bars shot through the head,—of lead bars taken from the stomach,—tumblers of glass and metal from the vagina and rectum,—of persons who have swallowed artificial teeth,—been struck by lightning,—of a man delivered of the foetus of his brother,—of one who operated on himself for stone in the bladder,—of one who accidentally hung himself,—of a boy who vomited up a foetus,—of traps to catch intestinal worms,—of amputation of the head, the patient living thirty-six hours,—and so on through whole lists of wonders. One feels after reading its list of contents, much as a child does after reading Foxe's Book of Martyrs, or some other similar book of horrors. The lesson to be derived from all these cases so far as they are surgical, is that the human body is capable of recovery after mutilations which we generally suppose must be fatal. And that even the most shocking accidents should receive the attention of the Surgeon, and careful thought and ready effort to save if possible life and limb.

Two things we much regret in the volume. One, that Prof. Eve did not confine himself to *surgical* cases entirely:—in which case the volume would have been more valuable and not so large, or have contained more information relating to that speciality. The non-surgical are not only found among the "miscellaneous cases," as one chapter is entitled, but abound in the other portions of the volume. As the

author says he labored under the *embarras de richesse*, there is less excuse for this mistake in a book of *surgical* cases.

The other is the manner in which the author treats questions of priority. We begin to doubt if it would be possible for mortal man to invent anything, in the way of medical science at any rate, without some one starting up and exclaiming that he had preceded him. We do not wonder therefore that disputes arise, but we do wonder that Prof. Eve, who has, if we mistake not, been annoyed by the same treatment, should have taken such a course as to annoy others. The first instance to which we refer is to Dr. Carnochan's claim to priority in removing the *entire* lower jaw. Against this Prof. Eve sets up Dr. Deaderick's claim to have removed *part* of it, in such a way as to leave (doubtless without intention) an impression that it was the whole. It would have been wise to be carefully distinct in such a matter. The other instance is in respect to Dr. Mott's claim to priority in removing the entire clavicle. The author claims this for Dr. McCreary, of Kentucky, on the authority of Dr. James H. Johnson, referring to a paper by that gentleman, but omits the insertion of the paper. Clearly it is impossible for more than a very few readers to hunt up that paper. With unusual facilities ourself we have not yet been able to do so, and it would have been only *fair* to have reprinted it, even if it would have compelled him to omit some account of "Accidental Hanging," or "Pins in the Stomach," or other case not strictly pertaining to surgery. Few will be inclined on this account to give the precedence to Dr. McCreary, while the author places himself in the position of a person desiring to snatch the laurels from the brow of one man, and yet failing to place them upon the head of another. It is impossible to rob Dr. Mott of the claim of *originality* in his operation, but every one must regret the tone which prevails in these remarks concerning him, based as they are on a harmless *jeu d'esprit*, occurring in a connection which fully justified it.

SELECTIONS.

The Licoperdon Giganteum. By B. D. RICHARDSON, M.D.

One of your correspondents in your last Number asks some questions about the common puff-ball, or licoperdon giganteum. Perhaps the following facts may be of interest to him and others. The

licoperdon giganteum is classed by Balham amongst the edible fungi. In Italy it is fried with salt, and eaten as food. Mr. Butler, the herbalist in Covent Garden, has eaten it fried ; and Mr. Smith, the stationer in Long Acre, esteems it a delicacy, and eats it regularly when in season. I have given it to dogs, mixed with animal food, without any untoward result. The fungus, like the roots of young fern, which the Thibetians eat with as much relish as we eat asparagus, and, like some sea-weeds, might be turned to great service as a food were its properties more widely known.

But the *licoperdon* is specially interesting to the medical man from the fact that when it is dried, and portions of it are burned, the smoke emitted contains a safe and admirable anæsthetic agent. For the purpose of stupefying bees puff-ball smoke has been used in some districts of England from time immemorial. Being aware of this curious fact in 1853, from my friend Mr. Hudson, I was struck with the analogy between the action of this fume and the vapor of chloroform. At once I extended this analogy, and administered puff-ball smoke to cats, dogs, and other animals, with great effect. I laid my results and experiments before the Medical Society of London, on May 31st, 1853. The summing-up of the paper read on that occasion, was as follows :—That there is a principle in the fumes of burning puff-ball capable of producing anæsthesia in animals. That this anæsthetic, in a liberal dose, narcotizes rapidly and effectually, without producing unpleasant symptoms. That, when carried to an extreme, the respiration always stops before the heart, and that so long as there is any respiration, the animal is safe. That the narcotic principle is highly volatile. The combustion of the fungus in oxygen does not destroy the anæsthetic principle. That the anæsthetic principle is neither absorbed nor destroyed by being driven through water, alcohol, or strong alkaline solutions.

Since the time when these results were drawn up, I have used the puff-ball smoke for various physiological experiments, to the exclusion of any other anæsthetic. At the least, I have narcotized a thousand animals with it, and without a single accident. For the physiologist there is no anæsthetic like it ; it is cheap, its effects are intensely prolonged, and the danger seems as nothing, if care be used in the administration. In using it, my animals are placed in a box with glass top and sides ; the smoke is introduced from a small furnace beneath. Drs. Thudichum, Macnab, and Halford, have all used the anæsthetic in physiology, and with the same satisfactory results. I have been narcotized myself with the clarified fumes, and felt none the worse for my pains. As yet, the application of this anæsthetic agent to man is impracticable in a great measure. The point is, to isolate the narcotic principle, and make out its nature, I have been constantly employed at this work, but without satisfactory results. Dr. Snow entered on this inquiry, and thought that some cyanogen compound was the narcotic : I repeated my excellent friend's experiments, but cannot confirm them. Mr. Thornton Herepath entered on this inquiry, and made out that the agent was carbonic oxide. I repeated Mr. Herepath's experiments, but cannot

confirm them ; I could not detect carbonic oxide in the vapor. I found that combustion of the fungus in oxygen still produced the narcotic, and, compared by the effects of carbonic oxide on the same animal, the symptoms induced by the two agents are not, physiologically, the same. The narcotic of puff-ball smoke is, I believe, some hydro-carbon.

If a piece of the dried fungus be exposed to chlorine gas, the gas disappears, and the fungus afterwards burns more readily. The fumes emitted after this combustion produce narcotism, and the animal often recovers from the narcotism, but dies inevitably some little time afterwards,—dies simply protracted, without any manifestation of suffering. When the anæsthetic is produced by combustion of the fungus in common air, and its exhibition is very prolonged, the physiological effects are often most curious. The animal lies for a full hour entirely insensible to pain, but blowing in his breathing like a man in apoplexy. Slowly the consciousness comes about, long before the sensation. In this state, I have tied the femoral of a dog, while he has been licking the hand of an assistant,—perfectly conscious himself, but utterly insensible of pain.

Some time since, some Parisian experimentalists assumed to go over my experiments, and came to the conclusion that there was no anæsthetic principle at all in the fumes of the burning fungus. Their report was so loosely drawn up, and with such an obvious determination to find fault, that I never cared to answer it. But the fact seems pretty clear, in so far as one can judge from their wool-gatherings, that they had either not got for experiment the same fungus, or that they did not understand the use of the fungus when they had got it.

To show the absurdity of the French reporter's conclusion, experiment only is necessary ; and I am ready at all times to show the anæsthetic fact, by experiment, to any one who may wish to see and believe.

The smoke of the licoperdon admits of some use in practical medicine. Smoked like tobacco in spasmodic chest complaints, it affords great temporary relief ; and I have smoked it myself in toothache, with considerable, but not permanent benefit. I once also in a case of whitlow, saw great relief from pain follow on the placing of the finger for half an hour in a vessel filled with the vapor. Like chloroform, the anæsthetic principle of the fungus smoke extinguishes flame, suspends the oxidation of phosphorus, and acts as a temporary preservative of animal substances.

At this moment, I recommend this anæsthetic only for the purposes of the physiologist ; but I think I have said enough to indicate that if more were known about it, it might be of equal use to the surgical practitioner.—*Medical Circular.*

Treatment of Anatomical Wounds with Lotions of Chlorine Water.

M. Nonat, Physician to the Hospital of La Charité, recommends the use of lotions, with solution of chlorine, in cases of anatomical

wounds, which unfortunately are far from being always exempt from danger. Be the wound large or small, be its surface united or anfractuous, the solution of chlorine destroys the putrid matter, which acts like a virus, and which causes so bad an influence on the system when absorbed. This agent may perhaps be absorbed, mix itself with the blood, and thereby prevent the mischief arising from them, or destroy those bad symptoms which have already appeared.

The way to use it is very simple. The wound is first well washed with water, then with the solution of chlorine. If the wound is one of some days' standing, if it is inflamed, if the lymphatic vessels and glands are obstructed, if the general appearance is favorable, and provided there are no symptoms of putrid infection,—the lotions of chlorine may arrest these accidents. It is useful in these cases, to use at the same time inhalations of chlorine.

M. Nonat has often had opportunities of testing these means, and in very serious cases. He thinks chlorine ought to be put at the disposal of the students, in the dissecting halls, and would have the following inscription upon the walls of the amphitheatre—"Wash, as soon as possible, your anatomical wounds with solution of chlorine."—*Union Medicale and Medical Circular.*

Parisian Hospital Practice. Complete Dislocation of the Inferior Maxillary Bone, Reduced on the 87th day. By M. NELATON'S Proceeding.

The following case shows, that in dislocations of long standing of the lower-jaw we must at first have recourse to the simplest means, and, if those do not succeed, use more severe ones afterwards.

This proceeding, which consists above all in pushing back the lower jaw, after having displaced it by a movement with the thumbs applied on the dental arches, offers the indisputable advantage of allowing the surgeon to feel or know exactly what takes place during the efforts at reduction, and to judge the degree of strength it is necessary to employ to overcome the resistance. If the resistance is too great, he can always have recourse to more energetic means.

A lady, sixty-four years of age, fell down in running, and received a large wound in the region of the left temple, and fainted. When she was raised up, she presented a frightful disfigurement of the face. But for eight days a serious cerebral accident attracted the whole attention of the Physician, and when she was better, wishing to take some food, she found it impossible to close her jaws. The doctor did not perceive the injury, therefore paid no attention to it. About three months afterwards, the patient finding that no change for the better was taking place entered the *Maison de Santé*, in the service of M. Demarquoy, who soon saw it was a complete dislocation of both the condyles of the lower maxillary bone. The chin was drawn downwards and forwards, the patient could no longer close her jaws, her pronunciation was constrained, and she labored under a disfigurement of the entire face. In putting his fingers into her mouth, the surgeon discovered that the coronoid apophyses were stopped by the

jugal bone. The first trial of reduction proved useless. The patient was then placed under the influence of chloroform, and the surgeon's second attempt was more successful. After a little cracking, and by means of strong pressure, the right condyle reëntered the glenoid cavity, but it started again as soon as the reduction was tried on the left side ; in consequence of which the condyles were supported and the patient left quiet for four days. Nothing happened, and the dislocation did not again take place on the left side. At last, on the eighty-seventh day after the accident, the reduction was practised on the left side by the same proceeding, and the jaw was held up with a chin-cloth. The movement of opening and shutting her mouth was effected with facility, although the lower dental arch extends forwards beyond the upper one, which depends on the deformation of the glenoid cavities, the consequence of former dislocation. The patient left the Maison de Santé four days afterwards, being able to masticate without inconvenience.

This case is remarkable for the right dislocation being of such long standing, for the simple process by which the dislocation was reduced by M. Nélaton ; and finally for the consecutive reduction of the condyles, which seemed to lessen considerably the force of the resistance.—*Medical Circular*.

Improved Method of Amputation of the Ankle-Joint. By Mr. RICHARD QUIAN.

“ It appears to me, and, indeed, it has always appeared to me, that the chief advantage of the operation for removing the foot at the ankle-joint, is due to the fact, that the patient is enabled, in progression afterwards, to bear directly upon the stump. After any other amputation higher up—that, for instance, above the ankle, which, in other respects, is equally, if not more advantageous, the person cannot bear his weight upon the end of the stump. Ulceration of the integument would follow ; while after an amputation at the ankle-joint, with a flap taken from beneath the heel—from structures, that is to say, which are organized for the purpose—with that covering the bones, pressure is sustained by the stump without injury.

“ Now as to the plan of performing the operation :—When it was first suggested that the flap should be taken from under the surface of the foot, instead of being taken from the front and sides of the joint, as previously practised, Mr. Syme, the author of the suggestion, advised that an incision should be made from one malleolus to the other, beneath the os calcis. But the dissecting back the concave flap, thus marked out from the projection of the heel, is a tedious process. One has to dissect in a confined space over the irregularities of the bone ; and it has often happened that the integuments have been perforated behind the heel. Moreover, if you read the histories of cases fairly reported, in which the operation has been performed in that way, you will find that counter openings were subsequently required, to evacuate pus collected in the cup-like flap. It is in consequence of these evils that I was led to operate in the manner

you saw in these cases. Thus, after the incision from malleolus under the os calcis, I make a straight incision at right angles with the first, to the back part of the heel, on the outer side of the foot, a little above and parallel with its outer margin—between, therefore, the point of the outer malleolus and the margin of the foot. This plan facilitates the dissection from the os calcis, and hastens the operation. Independently of the direct advantage of this method of operating, I may remind you, by way of answer to possible objections, that the blood vessels (anterior tibial and posterior tibial), as well as the thicker soft structures, lie at the forepart and inner side of the ankle-joint, and beneath the foot. It is upon the careful preservation of these parts that the nutrition and the firmness of the stump depend. At the outer side, on the contrary, the os calcis is covered only with integuments, while the slender blood-vessel, the end of the peroneal artery, as it runs along the periosteum, is injured, probably made useless during the dissection. Hence the incision through this part, while it sets free the flap all around, and hinders the bagging of purulent matter, does not interfere with any important structure.

“It may be mentioned, too, that in the recorded cases of the amputation, as usually performed, the outer part of the flap, the part now in question, had often been mentioned as having sloughed. This fact is accounted for by the conformation just referred to.”

As no mention is made in the foregoing observations of other parts of the operation, it perhaps should be stated that Mr. Quain makes the plantar part of the principal flap short, though long enough to cover fully the end of the tibia; and that he forms an anterior flap which, in the cases above related, met the larger one easily. He dwells on the advantage of so cutting the edges of the two flaps, by bevelling the parts beneath the integument, that they shall, in the dressing, meet skin to skin, as far as possible. This is done with a view to avoid the need for the formation of much new skin during the cicatrization.

I may likewise mention that, with the same view of facilitating the process, I have seen the operation performed with an incision directed obliquely backwards from the malleoli to the point of the heel. This plan, of course, removes the difficulty, by omitting the only difficult part of the operation; but the structures from the sole of the foot, “those organized for the purpose” of bearing the weight of the body in progression, are excluded from the flap. The importance of using the structures beneath the heel was enforced by Mr. Quain some years ago, in a “Clinical Lecture on the Places of Election for Amputations of the Lower Limb,” published in the *Medical Times*, vol. iii. (new series), page 659, and referred to in his recent clinical lecture. In laying down general principles applicable to the amputations of that limb, he there says:—“That in no case where the operation is made through the leg or the thigh, can the person afterwards rest easily the end of the stump upon the artificial support. It is only where a part of the sole of the foot is made to cover the bone, that the end of the truncated limb will sustain, without pain or injury, the weight of the body. In other words, it is only the struc-

tures which are organized for the purpose, that will sustain the pressure, in these circumstances, without causing pain or suffering ulceration." And again, in the same lecture, these words occur:—"I may state that even when this modification in the method of performing the amputation was first made known, I took occasion to perform it, and I then advocated the plan on the same grounds that I now offer in recommendation of it." The date of the publication from which these extracts are taken, is 1851. I shall only add that the operations which I saw performed, without including in the investment of the bone the strictures here adverted to, did not seem to promise a very satisfactory result.—*Medical Times and Gazette*.

Interesting Case of Transfusion of Blood.

This operation was successfully performed on the 16th of September, by Mr. Wheatcroft, surgeon, of Cannock, Staffordshire, England, on the person of a woman named Wood, residing there. Immediately after her accouchement fearful hæmorrhage set in, draining the woman of blood. She felt herself dying, and summoned her husband to her bedside, bid him "good bye," and earnestly requested him to take care of the children when she was no more. She then became pulseless and gasping, occasional breathing being the only indication of life. A vein was opened in her arm, and one in the arm of her husband, and as the blood flowed from the latter, it was transmitted, by suitable apparatus, into the veins of the wife. After seventeen ounces had been thus injected, the pulse became perceptible, the colorless lips reddened, the glassy eyes brightened, and she thankfully said, "I am better." The case has progressed very favorably, and the woman is recovering.—*Medical Circular*.

Cod-Liver Oil Solidified with Gelatine.

Take of pure gelatine, half an ounce ; water, simple syrup, of each four ounces ; cod-liver oil, eight ounces ; aromatic essence, as much as may be sufficient. Dissolve the gelatine in the boiling water, and add successively the syrup, the oil, and the aromatic essence ; place the vessel containing the entire in a bath of cold water ; whip the jelly for five minutes at most, and then pour it, while still fluid, into a wide-mouthed glass bottle, furnished with a cork, or with a pewter cap, or if a bottle be not at hand, into a porcelain or earthenware pot, which should be carefully closed.—*Bul. Gen. de Thérap.*

Lichen and Cod-Liver Oil.

Take of Iceland moss jelly, four ounces ; gelatine, four scruples ; hydrocyanated cod-liver oil (to which two drops of essence of bitter almonds have been added), six drachms. Prepare the Iceland moss jelly in the usual manner ; melt the gelatine and pass it into the vessel which is to hold it ; then add the cod-liver oil ; stir the entire with a spatula, until the mixture be homogeneous and the jelly begins to congeal. Dose—two or three spoonfuls daily.—*Bulletin Général de Thérapeutique and Dublin Hospital Gazette*.

EDITORIAL AND MISCELLANEOUS.

—Several journals have been copying what has been said by one or another in opposition to our position with reference to Dr. Uhl. Happening to have more complete information than they upon the facts in the case, our judgment is quite as likely to be correct. This will probably be apparent after the trial of Mrs. Cunningham. Our position was taken not because we supposed it would be popular, but because it was the true one.

—No doubt it is an honor for us to have our articles attributed and credited to other sources, but we will willingly forego this for the sake of having the MONTHLY receive its proper acknowledgment for what appears in its pages. The last number of the *Charleston Journal* credits a part of one of our articles on vaccine virus to the *Dublin Press*; the *Philadelphia Journal* last Summer took one or two whole articles of Dr. Green's prescriptions and published them as original, and they were so credited by others; the *St. Louis Journal* copied two or three things in the same way, among others Dr. Noyes' article on Eunuchs, &c., in the East, for which we had paid a pretty good price to the author. Others either take our extracts from European journals without credit, or else have a wonderful knack at writing just the same words as introductions to them, and omitting the same parts that we do. Our intimate relations with Europe enable us to obtain the journals at an earlier day than others, and we have no objection to other journals quoting; but fair play is a jewel in honorable rivalry, and a thing that is worth quoting is worth crediting.

—The anniversary oration before the Academy of Medicine was delivered on the 18th of November by Dr. J. Marion Sims, in the new and beautiful hall of the Historical Society. His subject was the use of silver for sutures, including, of necessity, an account of his progress and experience in the treatment of vesico-vaginal fistula. Dr. Sims gave it as his opinion, that his invention of the use of silver instead of silk for the purposes of suture, would in due time revolutionize surgery and be confessed by all to be the great discovery of the nineteenth century. At its close highly complimentary remarks were made by Dr. Francis concerning both the paper and the speaker, and it was unanimously voted that it be published by the Academy.

—At the November meeting of the Academy of Medicine, an

interesting report from the section on materia medica and therapeutics was read by Dr. E. H. Janes, the Secretary of the section. The subject was that of condensed milk, as prepared by Mr. Gail Borden. After a brief but learned statement of the ingredients, milk, its composition, and the difficulties in the way of obtaining it in cities in a proper degree of purity, together with the results of such changes and adulterations, the report proceeds :

It affords the Section no small degree of satisfaction to be able to state to the Academy that, after a thorough examination of this subject, they are fully convinced that in "Borden's condensed milk" the citizens of New York may be furnished with an article that for purity, durability, and economy, is hitherto unequalled in the annals of the milk trade. The facilities that he enjoys, both in a pecuniary and scientific point of view, added to the high character he sustains as an honest, upright man, not only afford him no inducement for deception, but on the contrary, should be sufficient to inspire all with implicit confidence in the truth of his statements, and insure the final success of his undertaking.

In order to carry out his views to the greatest advantage both to himself and patrons, he has selected for the seat of his operations a section of country abounding in rich pastures and healthy cattle, and so remote from the city as to enable him to procure milk from the neighboring farmers at a much cheaper rate than is usually paid by the milk dealers. As soon as received, it is with as little delay as possible deprived of a greater part of its watery portion, leaving the nutritious portion wholly unaffected, and in a portable condition. In the examination of the merits of this article, the Section have thought proper to acquaint themselves, as far as possible, with the mode of its preparation, to test its value as an article of diet, its therapeutic virtues, its purity, its durability, and economy.

In order to become more thoroughly satisfied concerning the manner in which the milk is prepared, it was thought advisable that the whole process be submitted to the careful inspection of some member of the Section. Accordingly, the Secretary, accompanied by Dr. Griscom (who has kindly volunteered his assistance in the investigation of this most interesting subject), at their earliest convenience visited the laboratory of Messrs. Borden & Co., and were enabled to witness the process through its different stages, from the milking of the cows to its final completion. The milk, immediately after leaving the cow, was strained into an ordinary milk can, then placed in a cold water bath, and there it remained until it was entirely deprived of its animal heat. It was then placed in a hot bath, and soon as possible raised to a temperature of about 175° Fahrenheit. This caused a slight deposit of a viscid albuminous matter upon the sides of the can, which, if allowed to take place in the evaporating pan, greatly retards the process of evaporation. The milk is now passed through a second strainer, and without delay removed to a vacuum pan, where the water is evaporated. This pan consists of a large

metallic vessel, supplied with a jacket for the reception of steam, by means of which the heat is applied. Connected with the pan, by a tube, is a barometer that indicates at a glance the extent of vacuum, and by another tube, which serves also for the escape and condensation of steam, an air pump in constant motion. A thermometer, also in direct communication with the interior of the pan, indicates the temperature, and by means of a glass light in either side of the pan, we can from time to time witness the progress of the evaporation. While witnessing the process, every few minutes a note was made of the temperature, extent of vacuum, and other points of interest. For instance, at 9 o'clock there were 247 quarts in the pan, boiling at a temperature of 118° in a vacuum of $27\frac{1}{2}$ inches. At forty minutes past 9, 180 quarts were added; at thirty-five minutes past 10, 240 quarts were added, making in all 667 quarts, which by thirty-five minutes past 1 o'clock was evaporated to one-fourth the quantity. During this time the temperature was twice observed to be above 130° , but most of the time it was from 115° to 126° . An opportunity was also afforded to test the relative quality of milk from the respective farms. Thus, from five different farms the milk was examined by the lactometer, and showed that the morning's milk was of a richer quality than the evening's. The cows taking little or no exercise during the night, less fat is required to support the respiration, and consequently more allowed to pass into the milk. The milk from one farm, where the cows were thin in flesh and seemed destitute of fat, was superior to the milk of cows that presented to the eye a more attractive figure. It is a fact familiar to every medical man, that those mothers who are of a slender frame, small muscular development, and deficient in adipose tissue, often afford better nourishment for their offspring than many mothers of a full and plethoric habit. In the one case the fat and casein supplied by the food passes into the milk; in the other, more of the one is deposited and retained in the areolar tissue, and the other contributes to the support and development of the muscular system. During the preparation of this milk, your committee beheld nothing that was not to their minds eminently satisfactory, both in the frankness with which everything pertaining to the subject was submitted to our examination, and the intelligence manifested in the replies to our many inquiries.

In reference to the condensed milk as an article of diet, its importance is at once established by the fact that it retains all of the nutritive qualities of milk uninjured. Cheese made from it is superior to common cheese, as it contains not only the casein and butter (the beef and fat), but the sugar also, which, as before stated, supplies the starchy matter of vegetable food. In the ordinary method of cheese-making, the sugar is lost in the whey, thus depriving us of a very important element of nutrition. Used in its condensed form, this milk imparts a delicious flavor to coffee, fully equal to that of thick cream, and in short, as far as could be ascertained upon the most rigid inquiry, it has, whenever used in the various departments of the culinary art, given entire satisfaction. Its therapeutic value is restricted to that of pure milk and cream, and wherever these are

indicated the condensed milk is equally valuable. It has been suggested as a substitute for cod liver oil, and in those cases in which the oil is not tolerated by the stomach, and cream has fulfilled the indications presented, the same amount of benefit may be derived from its employment; but as its amount of carbonaceous matter is so much less in proportion to its volume than exists in the oil, the Section are not prepared to say that it can in all cases be substituted for that remedy. The opinion prevails to a considerable extent, that boiled milk has a strong tendency to constipate the bowels, and that question has been raised in reference to the condensed milk. To a note addressed to Prof. Henry G. Cox, Physician to the Nursery Hospital, where the milk has been used for the last two months, that gentleman replies that it has no such tendency. He is pleased with it as an article of diet for children, in the absence of pure new milk, and he adds, "if Mr. Borden continues to furnish it unadulterated, I think it will be a great improvement to the public over the manufactured milk now so generally in use."

In order to test its purity, it has been submitted to careful microscopical examinations as well as different chemical tests, and found to contain nothing but pure milk. In this connection it might be well to add, that when allowed to stand for some time, small crystals are deposited upon the bottom of the can, which has given rise to the remark, that some foreign substance had been added to the milk. These crystals are nothing but the sugar of milk, and so far from being an objection, they afford proof that the milk has undergone no decomposition. They are readily dissolved upon the addition of water. Its durability depends in a great measure upon the manner in which it is kept. When exposed to the influence of hot, damp weather, it will remain sweet but little longer than ordinary milk. If kept upon ice, or in cold weather, it will remain sweet for many weeks. When hermetically sealed, it will keep for many months, or even years. In answer to inquiries on this part of the subject, the following communications were received:

Office of N. Y. and Liverpool U. S. M. Steamers, }
October 29, 1857. *}*

Dr. E. H. JANES, Sec'y of Med. Com.:

Dear Sir,—In answer to your inquiries relative to Borden's Condensed Milk, I have to state that it has been used on board of this line of steamers for several voyages, and ascertaining that it would keep to Europe and back, it is put on board for the return voyage, and found good on return of ship to this port.

G. BRIGGS, Supt. of Collins' Steamships.

Steamship Augusta, Oct. 29, 1857.

Dr. E. H. JANES, Sec'y of Med. Com.:

Dear Sir,—In answer to your inquiries in relation to Borden's Concentrated Milk, I beg leave to state that the steamer *Augusta* has used it exclusively for the last two or three months on her passage to and from Savannah, Georgia, with convenience to the ship

and comfort of the passengers. I also learn that the steamer *Alabama*, sailing to the same port, exclusively uses the milk.

Respectfully,
DAVID SIMMONS,
Chief Steward Steamer *Augusta*.

A communication was also received from Hutchinson & Co., ice dealers, stating that they had furnished steamships with this milk, and in no instance had heard any complaint of its becoming sour. Full directions are given by the proprietor on this subject, and those who follow out faithfully these directions, will find it quite as durable as is represented. Its economy is entirely in the hands of the consumer. It is sold in its condensed form at 32 cents per quart. Add three quarts of water, and we have four quarts of pure cows' milk. Add another quart of water, and we have five quarts of better milk than is usually supplied at our doors. Should any one desire a still cheaper article, he can learn how to obtain it, by referring to an account of a recent meeting of milkmen, given in the *New York Daily Times* of Monday, Nov. 2d.

In conclusion, the Section beg leave to assure the Academy that they believe Borden's Condensed Milk to be what it purports to be, and nothing more, viz : pure milk deprived of most of its water, and deficient in none of its nutritive elements. They believe it to be the best possible substitute for pure new milk that can be had in this or any other city. Equally adapted to the wants of all conditions of life, and often a valuable auxiliary to the physician, either in private or hospital practice. And as such, the Section would earnestly recommend it to the favorable notice of the Academy.

JOEL FOSTER, M.D., Chairman.

E. H. JAMES, M.D., Secretary.

This milk has been examined by us with some care, and it is certainly a great luxury to those who are obliged to use what is rather quaintly called "milkman's milk." In coffee it is as good as the best cream, and when frozen without eggs, it makes the most delicious ice cream. With children we have used it, though but little. They appear to be very fond of it, and to digest it readily. So long as its preparation is in the hands of such men as Mr. Borden, its purity and excellence can be depended upon. It may be of interest to add, that he informed us that the difference in the charge of the railroads for freight between this and the uncondensed milk, would pay for the expense of manufacture.

Chloroform Liniment in Burns.—M. Bargiacchi states that he has found the extreme suffering produced in bad burns completely relieved by means of a liniment composed of chloroform and cod liver oil.—*Bull. de Thérap.*, June, p. 516, and *Med. Times and Gaz.*







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